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=> D QUE

L4 46 SEA FILE=REGISTRY ABB=ON (10043-11-5/BI OR 10108-64-2/BI OR 10124-54-6/BI OR 10294-26-5/BI OR 10402-24-1/BI OR 12138-09-9/BI OR 124448-23-3/BI OR 12597-70-5/BI OR 12597-71-6/BI OR 12684-19-4/BI OR 12704-93-7/BI OR 127289-34-3/BI OR 1303-96-4/BI OR 1314-13-2/BI OR 1317-33-5/BI OR 1319-46-6/BI OR 1327-33-9/BI OR 14807-96-6/BI OR 150523-07-2/BI OR 159074-52-9/BI OR 186270-48-4/BI OR 186270-50-8/BI OR 186270-52-0/BI OR 25014-41-9/BI OR 52292-17-8/BI OR 57175-99-2/BI OR 598-63-0/BI OR 64176-75-6/BI OR 7429-90-5/BI OR 7439-92-1/BI OR 7439-97-6/BI OR 7440-22-4/BI OR 7440-28-0/BI OR 7440-29-1/BI OR 7440-31-5/BI OR 7440-44-0/BI OR 7440-50-8/BI OR 7440-55-3/BI OR 7440-57-5/B

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          OR 7782-42-5/BI OR 7790-80-9/BI OR 9003-05-8/BI)
L5            9 SEA FILE=REGISTRY ABB=ON  L4 AND PMS/CI
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          OR L12 OR L13 OR L14 OR L15 OR L16)
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L22       86455 SEA FILE=REGISTRY RAN=(,114859-25-5) ABB=ON  L19 OR L19
L23       79999 SEA FILE=REGISTRY ABB=ON  L20 NOT (L21 OR L22)
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L25      270857 SEA FILE=HCAPLUS ABB=ON  L22
L26       38382 SEA FILE=HCAPLUS ABB=ON  L23
L27     1183207 SEA FILE=HCAPLUS ABB=ON  L18
L28       32138 SEA FILE=HCAPLUS ABB=ON  (L24 OR L25 OR L26) AND L27
L32        1213 SEA FILE=HCAPLUS ABB=ON  ?ACRYL? AND LUBRICANT?(S)(COMPOSITION?
           OR COMPNS)
L33         864 SEA FILE=HCAPLUS ABB=ON  (L24 OR L25 OR L26) AND LUBRICANT?(S)(
           COMPOSITION? OR COMPNS)
L34         132 SEA FILE=HCAPLUS ABB=ON  (L32 OR L33) AND FRICTION?
L35          27 SEA FILE=HCAPLUS ABB=ON  L34 AND  L28
L36          55 SEA FILE=HCAPLUS ABB=ON  L34 AND MOA/RL
L37          37 SEA FILE=HCAPLUS ABB=ON  L34 AND (SOLID(W)LUBRICANT? OR
           ANTIOXID? OR RUST?(3A)INHIBIT? OR ANTIWEAR? OR DETERGENT? OR
           DISPERSANT? OR PRESSURE OR FOAM?(3A)INHIBIT?)
L38           1 SEA FILE=HCAPLUS ABB=ON  L34 AND SUPERABSORB?
L39          92 SEA FILE=HCAPLUS ABB=ON  (L35 OR L36 OR L37 OR L38)
L40          24 SEA FILE=HCAPLUS ABB=ON  L39 AND FUEL?/SC,SX
L41          21 SEA FILE=HCAPLUS ABB=ON  L39 AND (WATER? OR H2O OR AQ OR
           AQUEOUS)
L42          33 SEA FILE=HCAPLUS ABB=ON  L39 AND (OIL# OR GREASE#)
L43           1 SEA FILE=HCAPLUS ABB=ON  L39 AND (SLID? OR MOV?)(3A)SURFACE?
L44          51 SEA FILE=HCAPLUS ABB=ON  (L40 OR L41 OR L42 OR L43)
L45          24 SEA FILE=HCAPLUS ABB=ON  L39 AND C10M?/IC
L46          52 SEA FILE=HCAPLUS ABB=ON  L44 OR L45

=> D L46 ALL 1-52 HITSTR

L46  ANSWER 1 OF 52  HCAPLUS  COPYRIGHT 2001 ACS
AN   2001:172825  HCAPLUS
DN   134:208996
TI   Thermoplastic resin compositions with improved sliding property and their
     moldings
IN   Yamada, Tomohisa; Sugiura, Motoyuki
PA   Nippon Oil and Fats Co., Ltd., Japan
SO   Jpn. Kokai Tokkyo Koho, 11 pp.
     CODEN: JKXXAF
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DT Patent
LA Japanese
IC ICM C08L059-02
ICS C08J005-16; C08L051-06; C08L067-02; C08L077-00; C08L081-02
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001064478	A2	20010313	JP 1999-241315	19990827

PI JP 2001064478 A2 20010313 JP 1999-241315 19990827

AB The moldings comprise (A) 50-99% thermoplastic resins selected from polyoxymethylenes, polyamides, arom. polyesters, and poly(phenylene sulfides) and (B) 1-50% multiphase graft copolymers composed of 5-95% metallocene-catalyzed ethylene (co)polymer segments with 1 .times. 103-1 .times. 106 and 5-95% vinyl (co)polymer segments with Mw 1 .times. 103-1 .times. 106 where one segments are dispersed in the other segments at the particle size 0.001-10 .mu.m. Thus, a compn. contg. 90% Delrin 100 (polyoxymethylene) and 10% **acrylonitrile**-ethylene-styrene graft copolymer [**acrylonitrile**-styrene polymer segments with particle size 0.3-0.4 .mu.m are dispersed in Sumikathene E-FV 404 (ethylene polymer) segment matrix] was kneaded and injection-molded to give a test piece with Izod impact strength 10 kg-cm/cm, deflection temp. under load (JIS K 7207) 160.degree., dynamic **friction** coeff. 0.15, and good abrasion resistance.

ST thermoplastic blend multiphase graft copolymer sliding; impact abrasion resistance thermoplastic blend molding; polyoxymethylene **acrylonitrile** ethylene styrene graft copolymer blend

IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant**; thermoplastic resin **compns.** with improved sliding property and impact and abrasion resistance for moldings)

IT Abrasion-resistant materials
Impact-resistant materials
(thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

IT Polyamides, uses
Polyesters, uses
Polyoxymethylenes, uses
Polythiophenylenes
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

IT Polymer blends
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

IT Molded plastics, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

IT 2778-96-3, Unister M 9676 31900-57-9D, Dimethylsilanediol homopolymer, trimethylsilyl-terminated 42557-10-8, SH 200 127273-66-9, Daphne Super Mechanic **Oil** 100
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant**; thermoplastic resin **compns.** with improved sliding property and impact and abrasion resistance for moldings)

IT 108388-97-2P **116223-96-2P** 328530-06-9P **328530-07-0P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(multiphase; thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

IT 24968-12-5, UBE PBT 1000 25038-54-4, MC 100L, uses 26062-94-2, 1,4-Butanediol-terephthalic acid copolymer 94947-58-7, Delrin 100 328916-56-9, Sumikon FM-MK 104
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

IT **116223-96-2P 328530-07-0P**
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(multiphase; thermoplastic resin compns. with improved sliding property and impact and abrasion resistance for moldings)

RN 116223-96-2 HCAPLUS
CN 2-Propenenitrile, polymer with ethene, ethenylbenzene and 1-hexene, graft (9CI) (CA INDEX NAME)

CM 1

CRN 592-41-6
CMF C6 H12

$H_2C{=}CH{-}Bu\text{-}n$

CM 2

CRN 107-13-1
CMF C3 H3 N

$H_2C{=}CH{-}C{\equiv}N$

CM 3

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

CM 4

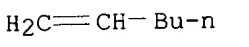
CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

RN 328530-07-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethene, ethenylbenzene and 1-hexene, graft (9CI) (CA INDEX NAME)

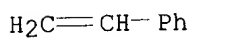
CM 1

CRN 592-41-6
CMF C6 H12



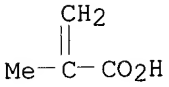
CM 2

CRN 100-42-5
CMF C8 H8



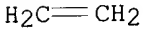
CM 3

CRN 79-41-4
CMF C4 H6 O2



CM 4

CRN 74-85-1
CMF C2 H4



L46 ANSWER 2 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:476089 HCAPLUS
DN 133:61180
TI **Composition** of **lubricant** for automobile engine
IN Liang, Huifeng; Li, Jianhua
PA Bailiwei Science & Technology Development Center, Beijing, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 7 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
IC ICM **C10M161-00**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1232080	A	19991020	CN 1998-101372	19980416

AB The raw material of the lubricant is composed of viscosity index improver 5-8, borate ester 2-10, phenylates 8-10, org. Mo compd. -6, org. S compd. 15-20, chlorinated paraffin 10-20, org. phosphate 5-10, high base no. sulfonate 8-10, and mineral **oil** 20-30%. The viscosity index improver is selected from polyisobutene, ethylene-propylene copolymer, **polymethacrylate**, hydrostyrene-diolefin copolymer; the borate ester from Me borate, Et borate, Pr borate, tricresyl borate, and lauryl

borate; the org. Mo compd. from Mo dithiocarbamate, Mo dithiophosphate or dialkyldithiophospaphate; the S compd. from vulcanized animal **oil**, vulcanized hydrocarbon, vulcanized ester, and polysulfide; the phenylates from one or more of di-Ph ether, di-Me di-Ph ether, di-Et di-Ph ether, and lauryl di-Ph ether; the phosphate from malonic phosphate or cyclovaleric phosphate; and the sulfonate from one or more of Ca sulfonate, Mg sulfonate, Ba sulfonate, and Na sulfonate. The lubricant can reduce abrasion of automobile engine and lengthen its the work life.

ST lubricant engine automobile **friction** improver

IT Sulfonic acids, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(calcium and barium and magnesium salts; **compn.** of **lubricant** for automobile engine)

IT Antifriction materials
Automobiles
Lubricants
(**compn.** of **lubricant** for automobile engine)

IT Alkanes, uses
Paraffin **oils**
Polysulfides
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**compn.** of **lubricant** for automobile engine)

IT Lubricating **oils**
(gear **oils**; **compn.** of **lubricant** for automobile engine)

IT Sulfonic acids, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(sodium salts; **compn.** of **lubricant** for automobile engine)

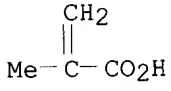
IT 101-84-8, Diphenyl ether 101-84-8D, Benzene, 1,1'-oxybis-, mono and bis(branched and linear lauryl) derivs. 594-07-0D, Dithiocarbamic acid, Molybdenum salts 688-71-1, Propyl borate 2467-15-4, Lauryl borate 9003-27-4, Polyisobutene 9010-79-1, Ethylene-propylene copolymer **25087-26-7, Polymethacrylic** acid 26248-41-9, Tricresyl borate 28299-41-4, Dimethyl diphenyl ether 37210-98-3, Methyl borate 40574-71-8, Diethyl diphenyl ether 51845-86-4, Ethyl borate 72579-09-0, Molybdenum dithiophosphate
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**compn.** of **lubricant** for automobile engine)

IT **25087-26-7, Polymethacrylic** acid
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**compn.** of **lubricant** for automobile engine)

RN 25087-26-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2



L46 ANSWER 3 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:476087 HCAPLUS
DN 133:61178
TI **Composition** of **lubricant** for vehicle gear
IN Liang, Huifeng; Li, Jianhua
PA Bailiwei Science & Technology Development Center, Beijing, Peop. Rep. China

SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
IC ICM **C10M137-04**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1232078	A	19991020	CN 1998-101374	19980416

AB The raw material of the lubricant comprises viscosity-index improver 25-30, **friction** improver 4-8, oiliness agent 4-6, halogenated extreme-**pressure antiwear** agent 5-12, high-base no. sulfonate 10-20, and mineral **oil** 30-50%. The viscosity-index improver is selected from polyisobutene, ethylene-propylene copolymer, **polymethacrylate**, hydrostyrene-diolefin copolymer; the **friction** improver from phosphate, phosphite ester, ammonium thiophosphate, Zn dialkyldithiophosphate, and Mo oxodialkyldothiophosphate; the oiliness agent from vulcanized whale **oil**, vulcanized cottonseed **oil**, vulcanized turpentine, vulcanized lard, and vulcanized olefin-cottonseed **oil**; the **antiwear** agent from chlorinated paraffin, chlorinated whale **oil**, chlorinated kerosene, and chlorinated naphthalene; and the sulfonate from Ca sulfonate. The lubricant can reduce abrasion of vehicle gears and lengthen its work life.
ST lubricant vehicle gear **friction** improver
IT Paraffin waxes, uses
RL: NUU (Nonbiological use, unclassified); USES (Uses)
(**antiwear** agent; lubricant for vehicle gear contg.)
IT Sulfonic acids, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(calcium salts; lubricant for vehicle gear contg.)
IT Kerosene
RL: **MOA (Modifier or additive use)**; USES (Uses)
(chlorinated; lubricant for vehicle gear contg.)
IT **Lubricants**
(**compn.** of **lubricant** for vehicle gear)
IT Antifriction materials
(lubricant for vehicle gear contg.)
IT Cottonseed **oil**
Paraffin **oils**
Turpentine **oil**
RL: NUU (Nonbiological use, unclassified); USES (Uses)
(lubricant for vehicle gear contg.)
IT Fats and Glyceridic **oils**, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(whale, chlorinated; lubricant for vehicle gear contg.)
IT 91-20-3D, Naphthalene, chlorinated 72579-09-0D, Molybdenum dithiophosphate, dialkyl derivs.
RL: **MOA (Modifier or additive use)**; USES (Uses)
(lubricant for vehicle gear contg.)
IT 9003-27-4, Polyisobutene 9010-79-1, Ethylene-propylene copolymer 15834-33-0D, Phosphorodithioic acid, derivs., amine salts 19210-06-1D, Zinc dithiophosphate, dialkyl derivs.
RL: **MOA (Modifier or additive use)**; USES (Uses)
(viscosity-index improver; lubricant for vehicle gear contg.)

L46 ANSWER 4 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 2000:59233 HCAPLUS
DN 132:96932
TI Glassy carbon-containing **friction** material compositions, their manufacture, and materials obtained from them
IN Kikuchi, Makoto; Shiga, Masamichi; Kato, Takanori
PA Hitachi Chemical Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09K003-14
ICS C09K003-14; C08J005-14; C08K003-04; C08K003-38; C08L021-02; C08L101-00; F16D069-00; F16D069-02
CC 57-8 (Ceramics)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000026839	A2	20000125	JP 1998-191108	19980707

PI JP 2000026839 A2 20000125 JP 1998-191108 19980707

AB The compns. contain (A) glassy C 0.25-23, (B) B carbide 0.03-13, and (C) liq. polymers or rubbers 0.55-23 wt.%. The **compns.** are manufd. by kneading A, B, and C and then mixing the resulting **compns.** with binders, reinforcement fibers, fillers, and **lubricants.** The materials are obtained by hot pressing the compns. The materials give disk brake pads showing stable **friction** coeff. and good crack, noise, and judder resistance.

ST glassy carbon boron carbide **friction** material; brake pad glassy carbon boron carbide

IT Nitrile rubber, uses
RL: DEV (Device component use); **MOA (Modifier or additive use);** USES (Uses)
(Krynac PXL 38-20, fillers; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Styrene-butadiene rubber, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(Nipol LX 139, coatings; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Polyamide fibers, uses
RL: DEV (Device component use); **MOA (Modifier or additive use);** USES (Uses)
(aramid, Kevlar, reinforcements; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Phenolic resins, uses
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(binders; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT **Friction** materials
(brake; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Fats and Glyceridic **oils**, uses
RL: DEV (Device component use); **MOA (Modifier or additive use);** USES (Uses)
(cashew nutshell, polymd., dust, fillers; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Synthetic fibers
(ceramic, Fineflex Bulk fiber, reinforcements; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Metallic fibers
RL: DEV (Device component use); **MOA (Modifier or additive use);** USES (Uses)
(copper, reinforcements; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Brakes (mechanical)
(disk, pads; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT Ceramics
(fibers, Fineflex Bulk fiber, reinforcements; compns. contg. glassy

carbon and boron carbide for noise- and judder-free **friction** materials)

IT 161544-42-9, HP 491UP
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(binders; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT 12069-32-8, Boron carbide
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT **7440-50-8**, Copper, uses
RL: DEV (Device component use); **MOA (Modifier or additive use)**; USES (Uses)
(fibers, reinforcements; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT 7631-86-9, Silica, uses 7727-43-7, Barium sulfate 161051-76-9, H 101
RL: DEV (Device component use); **MOA (Modifier or additive use)**; USES (Uses)
(fillers; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT **7440-44-0P**, Glassy carbon, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(glassy; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT **7782-42-5**, CB 150, uses
RL: DEV (Device component use); **MOA (Modifier or additive use)**; USES (Uses)
(**lubricants**; **compns.** contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT **9003-18-3**
RL: DEV (Device component use); **MOA (Modifier or additive use)**; USES (Uses)
(nitrile rubber, Krynac PXL 38-20, fillers; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT 9003-55-8
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene rubber, Nipol LX 139, coatings; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

IT **7440-50-8**, Copper, uses
RL: DEV (Device component use); **MOA (Modifier or additive use)**; USES (Uses)
(fibers, reinforcements; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

IT **7440-44-0P**, Glassy carbon, preparation
RL: DEV (Device component use); IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(glassy; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)

RN 7440-44-0 HCAPLUS
CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

C

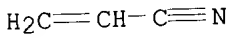
IT **7782-42-5**, CB 150, uses
RL: DEV (Device component use); **MOA (Modifier or additive use)**;
USES (Uses)
(**lubricants**; **compns.** contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)
RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

IT **9003-18-3**
RL: DEV (Device component use); **MOA (Modifier or additive use)**;
USES (Uses)
(nitrile rubber, Krynac PXL 38-20, fillers; compns. contg. glassy carbon and boron carbide for noise- and judder-free **friction** materials)
RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

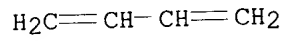
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 5 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1999:205299 HCAPLUS
DN 130:254745
TI Multifunctional lubricant additive
IN Zhang, Ruiming; Hooks, Robert M.
PA NCH Corporation, USA
SO U.S., 5 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM **C10M141-12**
NCL 508184000
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5885942	A	19990323	US 1997-935394	19970923
	EP 905221	A1	19990331	EP 1997-402290	19971001

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,

IE, FI
PRAI US 1997-935394 19970923
AB The multifunctional **lubricant** additive **compns.** of the invention preferably contain a methylene bis(dibutyldithiocarbamate) as an **antiwear** and extreme **pressure** additive, a 2,5-dimercapto-1,3,4-thiadiazole deriv. as an **antioxidant** and **antiwear** additive, a tolutriazole compd. as an **antioxidant** and corrosion inhibitor, a glycerol monooleate as a **friction** modifier, a calcium sulfonate as a **detergent** and extreme **pressure** additive, a zinc dialkyl dithiophosphate as an **antiwear** and **antioxidant** additive, a **polymethylacrylate** as a **dispersant**, a polyol ester as a carrier and **friction** modifier, a red dye for leak detection, and optionally, solvent neutral **oil** and a pour point depressant.
ST multifunctional lubricant additive
IT Fatty acids, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(C5-9; multifunctional lubricant additive)
IT Polyhydric alcohols
RL: **MOA (Modifier or additive use)**; USES (Uses)
(esters; multifunctional lubricant additive)
IT **Acrylic** polymers, uses
Calcium sulfonates
RL: **MOA (Modifier or additive use)**; USES (Uses)
(multifunctional lubricant additive)
IT Lubricating **oil** additives
(multifunctional; multifunctional lubricant additive)
IT 115-77-5D, Pentaerythritol, tetraesters 126-58-9D, Dipentaerythritol, hexaesters of C5-9 fatty acids 136-85-6D, Tolutriazole, derivs. 1072-71-5D, 2,5-Dimercapto-1,3,4-thiadiazole, derivs. 2653-64-7, **Oil** Red B 10254-57-6, Vanlube 7723 15834-33-0D, Dithiophosphoric acid, alkyl derivs., zinc salt 25496-72-4, Glycerol monooleate 53321-12-3, **Acryloid** 954 77907-76-7, Lubrizol 1395 107028-42-2, Lubrizol 78 107231-96-9, Lubrizol 6662 192230-84-5, Vanlube 871 221450-58-4, Vanlube 877E 221450-61-9, Hatcol 2954 221450-91-5, Vanlube 887
RL: **MOA (Modifier or additive use)**; USES (Uses)
(multifunctional lubricant additive)
RE.CNT 18
RE
(1) Anon; EP 0045827 1982 HCAPLUS
(2) Anon; EP 0593263 A1 1994 HCAPLUS
(3) Anon; EP 0761805 A2 1997 HCAPLUS
(4) Brewster; US 4683069 1987 HCAPLUS
(5) Brown; US 5152926 1992 HCAPLUS
(6) Clarke; US 5622922 1997 HCAPLUS
(7) Dasai; US 5516440 1996 HCAPLUS
(8) Doe; US 4880551 1989 HCAPLUS
(9) Francisco; US 5422023 1995 HCAPLUS
(10) Harris; US 4022700 1977 HCAPLUS
(11) Hata; US 4609480 1986 HCAPLUS
(12) Hutchison; US 4871465 1989 HCAPLUS
(13) Militec Inc; Product Information for Militec-1 undated
(14) Newingham; US 3923669 1975 HCAPLUS
(15) Orelup; US 4049393 1977 HCAPLUS
(16) Shaub; US 4105571 1978 HCAPLUS
(17) Slick 50 Products Corp; Product Brochure for Slick 50 undated
(18) Tochigi; US 5094763 1992 HCAPLUS

L46 ANSWER 6 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:742193 HCAPLUS
DN 130:14738
TI Compositions containing styrene polymers and paraffin wax for resistance to markings caused by **friction**

IN Dumont, Jean-Marie
PA General Electric Company, USA
SO Eur. Pat. Appl., 8 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C08L025-04
ICS C08L025-12; C08L055-02; C08L091-00
ICI C08L025-12, C08L055-02
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 37

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 877054	A1	19981111	EP 1998-303214	19980424
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2763075	A1	19981113	FR 1997-5580	19970506
	FR 2763075	B1	19990723		
	JP 11021399	A2	19990126	JP 1998-117640	19980428
	CN 1202504	A	19981223	CN 1998-114819	19980506
PRAI	FR 1997-5580		19970506		

AB **Compns**. contg. styrene polymers, styrene copolymers or their blends and articles molded from these **compns**. having an increased resistance to surface marking comprise, with respect to the total wt. of the polymers and/or copolymers present in the **compns**., (a) less than 0.5% of internal **lubricant**, and (b) 3 to 10% of paraffin. Thus, plates molded from a formulation comprising 15 parts ABS, 85 parts SAN, 5 parts paraffin wax, 0.08 part antistatic agent Noroplast 832, 0.1 part silicone **oil**, 8 parts titanium oxide, and 0.58 part Sicotan K 2107 yellow were rubbed with the corner of another plate of the same compn. 3 to 4 times at different points and gave a mark 0.2 mm in width, compared to 1.5 for plates molded from a similar formulation with 2 parts paraffin wax and 2.5 parts ethylene bis(stearamide) wax.

ST marking resistant styrene polymer blend; styrene copolymer blend paraffin wax lubricant; **friction** resistance styrene polymer molding; lubricant paraffin external silicone internal molding

IT Antifriction materials
Lubricants
(**compns**. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

IT Paraffin waxes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(compns. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

IT Styrene-butadiene rubber, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(compns. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

IT Marking
(resistance to; compns. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

IT **9003-54-7**, **Acrylonitrile**-styrene copolymer 9003-55-8, Butadiene-Styrene copolymer **9003-56-9**, ABS copolymer **9010-94-0**, **Acrylonitrile**-butadiene-methyl **methacrylate**-styrene copolymer 9011-13-6, Maleic anhydride-styrene copolymer **25053-09-2**, Butadiene-methyl **methacrylate**-styrene copolymer **27812-34-6**, **Acrylonitrile**-maleic anhydride-styrene copolymer 106974-54-3, Butadiene-styrene graft copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(compns. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

IT 9003-55-8
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(styrene-butadiene rubber, compns. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

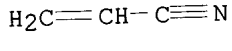
RE.CNT 5
RE
(1) Anon; Research Disclosure 1983, V234(23416), P316
(2) Hitachi Chemical Co, Ltd; JP 53119949 A 1978 HCAPLUS
(3) I G Farbenindustrie AG; DE 487707 C 1929
(4) Idemitsu Petrochemical Co; EP 0767211 A 1997 HCAPLUS
(5) Nakayama, K; JP 61148253 A HCAPLUS

IT **9003-54-7**, **Acrylonitrile**-styrene copolymer
9003-56-9, ABS copolymer **9010-94-0**, **Acrylonitrile**-butadiene-methyl **methacrylate**-styrene copolymer **25053-09-2**, Butadiene-methyl **methacrylate**-styrene copolymer **27812-34-6**, **Acrylonitrile**-maleic anhydride-styrene copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(compns. contg. styrene polymers and an effective amt. of paraffin wax for resistance to markings caused by **friction**)

RN 9003-54-7 HCAPLUS
CN 2-Propenenitrile, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

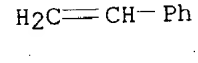
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

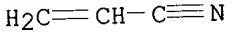
CRN 100-42-5
CMF C8 H8



RN 9003-56-9 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

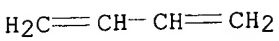
CRN 107-13-1
CMF C3 H3 N



CM 2

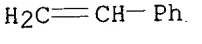
CRN 106-99-0

CMF C4 H6



CM 3

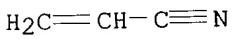
CRN 100-42-5
CMF C8 H8



RN 9010-94-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene, ethenylbenzene and 2-propenenitrile (9CI) (CA INDEX NAME)

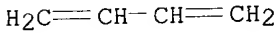
CM 1

CRN 107-13-1
CMF C3 H3 N



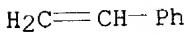
CM 2

CRN 106-99-0
CMF C4 H6



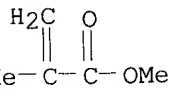
CM 3

CRN 100-42-5
CMF C8 H8



CM 4

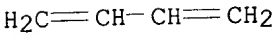
CRN 80-62-6
CMF C5 H8 O2



RN 25053-09-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with 1,3-butadiene and ethenylbenzene (9CI) (CA INDEX NAME)

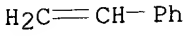
CM 1

CRN 106-99-0
CMF C4 H6



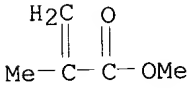
CM 2

CRN 100-42-5
CMF C8 H8



CM 3

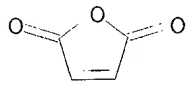
CRN 80-62-6
CMF C5 H8 O2



RN 27812-34-6 HCAPLUS
CN 2-Propenenitrile, polymer with ethenylbenzene and 2,5-furandione (9CI) (CA INDEX NAME)

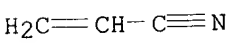
CM 1

CRN 108-31-6
CMF C4 H2 O3



CM 2

CRN 107-13-1
CMF C3 H3 N



CM 3

CRN 100-42-5
CMF C8 H8

$H_2C{=}CH{-}Ph$

L46 ANSWER 7 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:653758 HCAPLUS
DN 129:278341
TI **Lubricant compositions** for automatic transmissions
IN Yoshimura, Narihiko; Kugimiya, Takanori; Nakada, Takanori; Ueda, Fumio; Ando, Yasushi
PA TONEN CORPORATION, Japan
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM **C10M141-10**
ICS **C10M161-00; C10M165-00; C10M167-00**
ICI C10M167-00, C10M129-10, C10M129-54, C10M133-16, C10M133-56, C10M135-10, C10M135-30, C10M137-02, C10M137-04, C10M149-18, C10M159-22, C10M159-24; C10N010-04, C10N040-04
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

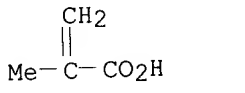
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 867498	A1	19980930	EP 1998-105304	19980324
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	JP 10265793	A2	19981006	JP 1997-88797	19970324
	US 5922656	A	19990713	US 1998-46091	19980323
PRAI	JP 1997-88797		19970324		

OS MARPAT 129:278341
AB The **lubricant compn.** of the present invention can be used in automatic transmissions and contains 0.05 to 2% of an alk.-earth metal salt of org. acid (component (A)), such as calcium sulfonate, 0.15 to 4% of a specific polyamide compd. (component (B)) and 0.05 to 1.5% of acid phosphate or acid phosphite ester (component (C)) which are added to a **lubricant** base **oil**, wherein all percentages are by wt. in the total **lubricant compn.** The **lubricant compn.** for automatic transmissions can show high anti-shudder property, high anti-shudder durability for an extended period, high property of preventing clogging of the **friction** material, and sufficient transmission torque capacity, while retaining the **lubricant** characteristic requirements for use in automatic transmissions.
ST lubricant automatic transmission
IT Transmissions (mechanical)
(automotive, automatic; **lubricant compns.** for automatic transmissions)
IT Lubricating **oils**
(**lubricant compns.** for automatic transmissions)
IT Calcium sulfonates
Polyolefins
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant compns.** for automatic transmissions)
IT Automobile parts
(transmissions, automatic; **lubricant compns.** for automatic transmissions)
IT 95-14-7, 1H-Benzotriazole 122-39-4D, Diphenyl amine, alkylated 123-56-8D, Succinimide, polyisobutenyl derivs. 128-39-2, 2,6-Di-tert. butyl phenol 12645-31-7, 2-Ethylhexyl acid phosphate **25087-26-7**, **Polymethacrylic** acid 213978-11-1, Polyamide A 2
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant compns.** for automatic transmissions)
IT **25087-26-7, Polymethacrylic** acid

RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant compns.** for automatic transmissions)
RN 25087-26-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2



L46 ANSWER 8 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:361059 HCAPLUS
DN 129:28761
TI Vinyl chloride polymer compositions for lightweight products with good moldability, appearance, **water** repellency, and sliding property
IN Oishi, Mitsuharu; Noda, Yoshiharu
PA Shin-Etsu Polymer Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L027-06
ICS C08K007-28; C08L027-06; C08L033-12
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10152591	A2	19980609	JP 1996-314524	19961126

PI JP 10152591 A2 19980609 JP 1996-314524 19961126

AB Title **compns.**, useful for packing materials, fishing line, etc. (no data), comprise vinyl chloride polymers 100, glass microballoons 20-200, plasticizers 10-200, Me **methacrylate** copolymers 1-20, and **lubricants** 0.1-5 parts. Thus, TK 1300 [poly(vinyl chloride)] 100, Glass Bubbles S 60 (glass microballoon) 40, di-n-octyl phthalate 50, epoxidized soybean **oil** 3, Metablen P 551A (Me **methacrylate** copolymer) 2, Ba-Zn stabilizer 3, and KF 54 (silicone **oil**) 1 part were blended, pelletized, and molded to give test pieces showing sp. gr. 0.82, good appearance, coeff. of static **friction** 0.53, coeff. of dynamic **friction** 0.35, and good **water** repellency.

ST polyvinyl chloride lightweight **water** repellency; sliding property PVC lightweight moldability; glass microballoon PVC compn **polymethacrylate**; packing material PVC lightweight sliding; fishing line PVC lightweight sliding

IT Glass microspheres
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(Glass Bubbles S 60; PVC compns. for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

IT **Lubricants**
Packing materials (beds)
Plasticizers
(PVC **compns.** for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

IT Sporting goods
(fishing lines; PVC compns. for lightweight products with good

moldability, appearance, **water** repellency, and sliding property)

IT Epoxidized soybean **oil**
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(plasticizers; PVC compns. for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

IT 80-62-6D, Methyl **methacrylate**, polymers 31230-04-3, Methylphenylsilanediol homopolymer 158707-73-4, Metablen P 551A
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(PVC compns. for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

IT 9002-86-2, Poly(vinyl chloride)
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(PVC compns. for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

IT 9002-88-4, AC 6A 9005-12-3, KF 54
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(**lubricants**; PVC **compns**. for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

IT 117-81-7, DOP
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(plasticizers; PVC compns. for lightweight products with good moldability, appearance, **water** repellency, and sliding property)

L46 ANSWER 9 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:180557 HCAPLUS
DN 128:205967
TI **Aqueous** lubricating coating composition for metals
IN Murata, Masahiro; Kurihara, Toshio; Suehiro, Akira; Ikenoue, Syuichi
PA Kansai Paint Co., Ltd., Japan
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C08K005-10
NCL 524308000
CC 42-7 (Coatings, Inks, and Related Products)
Section cross-reference(s): 56

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5726230	A	19980310	US 1995-546563	19951020

PI US 5726230

AB An **aq**. coating compn., esp. useful for coating cans, comprises a **water**-dispersible graft reaction product of an epoxy resin with an **acrylic** resin, prepd. from an .alpha.,.beta.-ethylenically unsatd. carboxylic acid and optionally another polymerizable unsatd. monomer, and an ester of polyglycerin ether with a (un)satd. fatty acid having 8-18 C atoms. A compn. contg. Epikote 828 based soln. 283, Et **acrylate** **-methacrylic** acid-styrene copolymer soln. 150, n-butanol 86, 2-butoxyethanol 47, dimethylaminoethanol 14.8, phenolic resin soln. 150, and **water** 466 parts was combined with 10 parts lauric ester of hexaglycerin ether (6:1 molar ratio) was applied onto Al panels and baked to give coated panels having good adhesion, coeff. of **friction** 0.05, processability <1 mA, and good boiling **water** resistance; vs. good, 0.43, .gtoreq.10 mA, and good, resp., for a coating without the ester.

ST **acrylic** epoxy graft vehicle coating; **water** thinned lubricating coating can; processability **waterborne** coating can; boiling **water** resistance coating; crosslinkable **acrylic** epoxy resin coating; fatty ester glycerin ether lubricant

IT **Water**-thinned coatings
(**acrylic** epoxy resin vehicle contg. ester **lubricant** ; **aq.** lubricating coating **compn.** for metals)

IT Epoxy resins, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acrylic**, graft; **aq.** lubricating coating compn. for metals)

IT **Lubricants**
(fatty ester of polyglycerin; nonmigrating; **aq.** lubricating coating **compn.** for metals)

IT **111202-37-0P**, Bisphenol A-epichlorohydrinethyl **acrylate-methacrylic** acid-styrene graft copolymer **161286-28-8P**, Bisphenol F-epichlorohydrin-ethyl **acrylate-methacrylic** acid-styrene graft copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**aq.** lubricating coating compn. for metals)

IT 130293-42-4 169702-41-4 169702-42-5 169702-43-6
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**aq.** lubricating coating compn. for metals)

IT **7429-90-5**, Aluminum, miscellaneous
RL: MSC (Miscellaneous)
(**aq.** lubricating coating compn. for metals)

IT 25085-75-0P, Bisphenol A-formaldehyde copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(crosslinker; **aq.** lubricating coating compn. for metals)

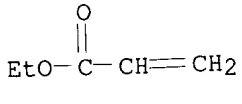
IT **25035-68-1P**, Ethyl **acrylate-methacrylic** acid-styrene copolymer
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(in prepn. of graft resin vehicle; **aq.** lubricating coating compn. for metals)

IT **111202-37-0P**, Bisphenol A-epichlorohydrinethyl **acrylate-methacrylic** acid-styrene graft copolymer **161286-28-8P**, Bisphenol F-epichlorohydrin-ethyl **acrylate-methacrylic** acid-styrene graft copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**aq.** lubricating coating compn. for metals)

RN 111202-37-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with (chloromethyl)oxirane, ethenylbenzene, ethyl 2-propenoate and 4,4'-(1-methylethylidene)bis[phenol], graft (9CI) (CA INDEX NAME)

CM 1

CRN 140-88-5
CMF C5 H8 O2



CM 2

CRN 106-89-8
CMF C3 H5 Cl O

CH_2-Cl

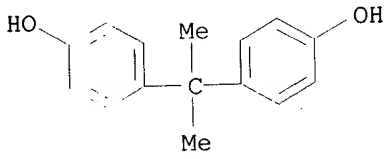
CM 3

CRN 100-42-5
CMF C8 H8

$H_2C=CH-Ph$

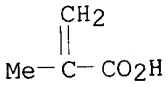
CM 4

CRN 80-05-7
CMF C15 H16 O2



CM 5

CRN 79-41-4
CMF C4 H6 O2



$Me-C(=CH_2)-CO_2H$

RN 161286-28-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with (chloromethyl)oxirane, ethenylbenzene, ethyl 2-propenoate and methylenebis[phenol], graft (9CI) (CA INDEX NAME)

CM 1

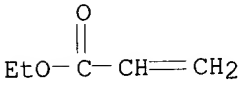
CRN 1333-16-0
CMF C13 H12 O2
CCI IDS
CDES 8:ID

D1—OH

1/2 [D1—CH_2—D1]

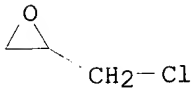
CM 2

CRN 140-88-5
CMF C5 H8 O2



CM 3

CRN 106-89-8
CMF C3 H5 Cl O



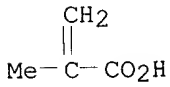
CM 4

CRN 100-42-5
CMF C8 H8

H_2C=CH—Ph

CM 5

CRN 79-41-4
CMF C4 H6 O2



IT **7429-90-5,** Aluminum, miscellaneous
RL: MSC (Miscellaneous)
(**aq.** lubricating coating compn. for metals)

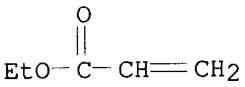
RN 7429-90-5 HCAPLUS
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

Al

IT **25035-68-1P**, Ethyl **acrylate-methacrylic** acid-styrene copolymer
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation)
(in prepn. of graft resin vehicle; **aq.** lubricating coating compn. for metals)
RN 25035-68-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethenylbenzene and ethyl 2-propenoate (9CI) (CA INDEX NAME)

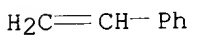
CM 1

CRN 140-88-5
CMF C5 H8 O2



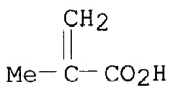
CM 2

CRN 100-42-5
CMF C8 H8



CM 3

CRN 79-41-4
CMF C4 H6 O2



L46 ANSWER 10 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1998:65543 HCAPLUS
DN 128:115746
TI Polyamide compositions with good sliding property
IN Serizawa, Katsushi; Kashiwagi, Hiroyuki
PA Nissan Motor Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L077-00
ICS C08K003-04; C08L033-08; **C10M169-02**; F16C033-24; **C10M107-50**; **C10M125-02**; **C10M149-06**; C10N030-06; C10N040-04; C10N050-08

CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10017766	A2	19980120	JP 1996-194051	19960705

AB The title **compns.**, with dynamic **friction** coeff. <0.058 and useful for thrust washer, piston, seal ring, and gear of automobile transmission, etc. (no data), comprise polyamides (e.g., nylon 66, nylon 6T, nylon 612), (**lubricant**-swelled) **acrylic** polymer particles (e.g., of glycidyl **methacrylate**-Me **methacrylate** copolymer), and carbon black.

ST sliding part polyamide **acrylic** particle; carbon black polyamide sliding part; automobile transmission polyamide sliding part; lubricant swelled **acrylic** particle polyamide

IT Lubricating **oils**
(**acrylic** particles swelled with; polyamide compns. with good sliding property)

IT Particles
(of **acrylic** polymers; polyamide compns. with good sliding property)

IT Sliding parts
(polyamide compns. with good sliding property)

IT Carbon black, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(polyamide compns. with good sliding property)

IT Polyamides, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide compns. with good sliding property)

IT **26141-88-8**, Glycidyl **methacrylate**-methyl **methacrylate** copolymer
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(particles, **lubricant**-swelled; polyamide **compns.** with good sliding property)

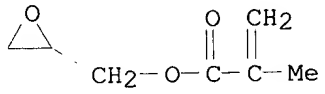
IT 24936-74-1, Nylon 612 24938-03-2 24938-70-3, Nylon 6T 26098-55-5 32131-17-2, Nylon 66, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyamide compns. with good sliding property)

IT **26141-88-8**, Glycidyl **methacrylate**-methyl **methacrylate** copolymer
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(particles, **lubricant**-swelled; polyamide **compns.** with good sliding property)

RN 26141-88-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with oxiranylmethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

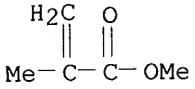
CM 1

CRN 106-91-2
CMF C7 H10 O3



CM 2

CRN 80-62-6
CMF C5 H8 O2



L46 ANSWER 11 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:802176 HCAPLUS
DN 128:89920
TI Lubricative peroxide-crosslinked rubber compositions with low **friction**
IN Hotta, Toru
PA Fujikura Rubber Works, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L021-00
ICS C08K003-04; C08L021-00; C08L083-04
CC 39-9 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09324078	A2	19971216	JP 1996-145545	19960607

PI JP 09324078 A2 19971216 JP 1996-145545 19960607

AB The compns. comprise peroxide-crosslinkable rubber 100, bifunctional silicone **oils** having functional terminals 5-30, and graphite 20-60 parts and are esp. suitable for sealings such as O-rings and packings. Zetpol 2020 (hydrogenated nitrile rubber) 100, X 22-164B (silicone **oil** contg. **methacryl** terminal groups) 10, G 50 (graphite) 30, Seast SO (carbon black) 30, stearic acid 1, ZnO 5, DOP 5, Perbutyl P 3, and Struktol WB 222 (processing aid) 2 parts were compounded, vulcanized at 170.degree., and cured at 150.degree. to give test pieces showing JIS A hardness 78, tensile strength 202 kg/cm2, elongation 330%, and compression set after 70 h at 150.degree. 17 and exhibiting good lubricity.

ST peroxide crosslinked rubber silicone **oil** lubricant; bifunctional silicone **oil** lubricant rubber; hydrogenated nitrile rubber lubricant polysiloxane **methacrylate**; graphite hydrogenated nitrile rubber silicone lubricant; sealing material peroxide crosslinked rubber

IT **Lubricants**
(functional group-contg. silicones contg. graphite; lubricative peroxide-crosslinked rubber **compns**. contg. silicone **oils** and graphite for sealings)

IT Nitrile rubber, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hydrogenated, Zetpol 2020; lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

IT Sealing compositions
(lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

IT Polysiloxanes, properties
RL: **MOA (Modifier or additive use)**; POF (Polymer in formulation); PRP (Properties); USES (Uses)
(**methacrylate**-terminated, **lubricants**; lubricative peroxide-crosslinked rubber **compns**. contg. silicone **oils** and graphite for sealings)

IT Vulcanizing agents

(peroxides; lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

IT Polysiloxanes, properties
RL: **MOA (Modifier or additive use)**; POF (Polymer in formulation); PRP (Properties); USES (Uses)
(terminated with functional groups, **lubricants**; lubricative peroxide-crosslinked rubber **compns**. contg. silicone **oils** and graphite for sealings)

IT Peroxides, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(vulcanizing agents; lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

IT **7782-42-5**, Graphite, properties
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(G 50, **lubricant**; lubricative peroxide-crosslinked rubber **compns**. contg. silicone **oils** and graphite for sealings)

IT 31900-57-9D, Dimethylsilanediol homopolymer, **methacrylate**-terminated 58130-03-3, X 22-164B
RL: **MOA (Modifier or additive use)**; POF (Polymer in formulation); PRP (Properties); USES (Uses)
(**lubricant**; lubricative peroxide-crosslinked rubber **compns**. contg. silicone **oils** and graphite for sealings)

IT 2212-81-9, Perbutyl P
RL: **MOA (Modifier or additive use)**; USES (Uses)
(lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, hydrogenated, Zetpol 2020; lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

IT **7782-42-5**, Graphite, properties
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(G 50, **lubricant**; lubricative peroxide-crosslinked rubber **compns**. contg. silicone **oils** and graphite for sealings)

RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

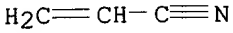
C

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, hydrogenated, Zetpol 2020; lubricative peroxide-crosslinked rubber compns. contg. silicone **oils** and graphite for sealings)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

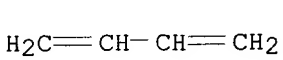
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 12 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:718189 HCAPLUS
DN 127:347418
TI Polyacetal resin compositions with good **friction**/abrasion resistance, sliding parts, and noise-reduced gears therefrom
IN Takayama, Katsutomo; Shikado, Osamu; Ueda, Takanori
PA Polyplastics Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L059-00
ICS C08K005-01; C08K005-06; F16C033-20; C08L059-00; C08L023-26; C08L083-04
CC 38-3 (Plastics Fabrication and Uses)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09286899	A2	19971104	JP 1996-102187	19960424

OS MARPAT 127:347418
AB Title **compns.** comprise (A) polyacetal resins 100, (B) modified olefin-based copolymers consisting of (i) olefins, (ii) (meth) **acrylic** acids and/or their esters, and (iii) unsatd. carboxylic acids, their anhydrides, and/or their derivs. 0.5-30, and (C) **lubricants** selected from silicones, .alpha.-olefin oligomers, paraffins, and/or substituted di-Ph ethers 0.5-10 parts. The component (ii) may be Me **acrylate**, Et **acrylate**, Pr **acrylate**, Bu **acrylate**, Me **methacrylate**, Et **methacrylate**, Pr **methacrylate**, and/or Bu **methacrylate**. Title sliding parts and gears obtained from the compns. are also claimed. Thus, 100 parts polyoxymethylene was blended with 5 parts maleated Et **acrylate**-ethylene copolymer and 2 parts ethylene-.alpha.-olefin oligomer, kneaded, pelletized, and injection-molded to give a rod showing abrasion amt. <0.1 mg in 20,000-times abrasion with a polyacetal resin.
ST wear resistant polyacetal resin molding gear; polyoxymethylene maleated olefin copolymer silicone blend; ethylene olefin oligomer lubricant polyacetal resin; polysiloxane **lubricant** polyacetal resin **compn**
IT Paraffin **oils**
Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**lubricants**; polyacetal resin **compns.** with excellent **friction**/abrasion resistance for noise-reduced gears)
IT Abrasion-resistant materials
Gears
Lubricants

Sliding parts
(polyacetal resin **compns.** with excellent **friction** /abrasion resistance for noise-reduced gears)

IT Polyoxymethylenes, uses
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal resin compns. with excellent **friction**/abrasion resistance for noise-reduced gears)

IT .alpha.-Alkenes
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polymers with ethylenes, **lubricants**; polyacetal resin **compns.** with excellent **friction**/abrasion resistance for noise-reduced gears)

IT 74-85-1D, Ethene, polymers with .alpha.-olefins 101-84-8D, C18-alkyl-substituted 9016-00-6, Polydimethylsiloxane 31900-57-9, Polydimethylsiloxane
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**lubricants**; polyacetal resin **compns.** with excellent **friction**/abrasion resistance for noise-reduced gears)

IT 108-31-6D, 2,5-Furandione, reaction products with olefin copolymer **9010-77-9D**, **Acrylic** acid-ethylene copolymer, maleated **9010-86-0D**, Ethyl **acrylate**-ethylene copolymer, maleated **25101-13-7D**, Ethylene-methyl **methacrylate** copolymer, maleated
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal resin compns. with excellent **friction**/abrasion resistance for noise-reduced gears)

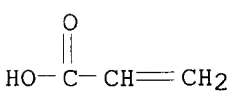
IT 50-00-0D, Formaldehyde, polymers
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal resin compns. with excellent **friction**/abrasion resistance for noise-reduced gears)

IT **9010-77-9D**, **Acrylic** acid-ethylene copolymer, maleated **9010-86-0D**, Ethyl **acrylate**-ethylene copolymer, maleated **25101-13-7D**, Ethylene-methyl **methacrylate** copolymer, maleated
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(polyacetal resin compns. with excellent **friction**/abrasion resistance for noise-reduced gears)

RN 9010-77-9 HCAPLUS
CN 2-Propenoic acid, polymer with ethene (9CI) (CA INDEX NAME)

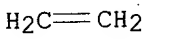
CM 1

CRN 79-10-7
CMF C3 H4 O2



CM 2

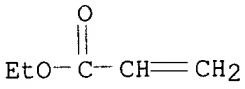
CRN 74-85-1
CMF C2 H4



RN 9010-86-0 HCAPLUS
CN 2-Propenoic acid, ethyl ester, polymer with ethene (9CI) (CA INDEX NAME)

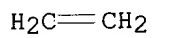
CM 1

CRN 140-88-5
CMF C5 H8 O2



CM 2

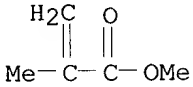
CRN 74-85-1
CMF C2 H4



RN 25101-13-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with ethene (9CI) (CA INDEX NAME)

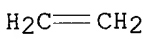
CM 1

CRN 80-62-6
CMF C5 H8 O2



CM 2

CRN 74-85-1
CMF C2 H4



L46 ANSWER 13 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:310124 HCAPLUS
DN 126:278775
TI Rubber compositions and their moldings with good ozone resistance, low **friction** coefficient, and good mold release
IN Ikeda, Takaharu
PA Nihon Valqua Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 11 PP.
CODEN: JKXXAF
DT Patent

LA Japanese
IC ICM C08L021-00
ICS C08L021-00; C08J005-00; C08K005-02; C08L101-02; C08L083-04
CC 39-9 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09067473	A2	19970311	JP 1995-226847	19950904

AB Title compns. contain highly satd. rubbers with I value .ltoreq.15 g/100 g, 100, functional group-contg. lubricating **oils** 1-30, and functional group-contg. thermosetting resins 1-30 parts. Thus, hydrogenated NBR 100, 5:1 ZnO/stearic acid 6, 2-mercaptobenzimidazole 1.5, carbon black 30, triallyl isocyanurate 6, PhOH-HCHO resin fine particle (methylol group content 6-7%) 3, amino-terminated polysiloxane 15, and 1,3-bis(tert-butylperoxyisopropyl)benzene 3.2 parts were mixed and pressed to prep. a test sheet showing **friction** coeff. 0.4, O3 resistance, and good release from a mold.
ST rubber molding lubricant mold release; ozone resistance rubber molding compn; **friction** low rubber molding compn; thermoset additive molding rubber
IT Phenolic resins, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(additives; rubber molding compns. with good ozone resistance and mold release and low **friction**)
IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(amino-terminated, **lubricants**; rubber molding **compns**. with good ozone resistance and mold release and low **friction**)
IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(carboxy-terminated, **lubricants**; rubber molding **compns**. with good ozone resistance and mold release and low **friction**)
IT Synthetic rubber, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hexafluoropropene-tetrafluoroethylene-vinylidene fluoride; rubber molding compns. with good ozone resistance and mold release and low **friction**)
IT Nitrile rubber, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(hydrogenated; rubber molding compns. with good ozone resistance and mold release and low **friction**)
IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(hydroxy-terminated, **lubricants**; rubber molding **compns**. with good ozone resistance and mold release and low **friction**)
IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**methacrylate**-terminated, **lubricants**; rubber molding **compns**. with good ozone resistance and mold release and low **friction**)
IT Lubricating **oil** additives
(rubber molding compns. with good ozone resistance and mold release and low **friction**)
IT Thermosetting plastics
RL: **MOA (Modifier or additive use)**; USES (Uses)
(rubber molding compns. with good ozone resistance and mold release and low **friction**)
IT EPDM rubber
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or

engineered material use); USES (Uses)
(rubber molding compns. with good ozone resistance and mold release and low **friction**)

IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(vinyl group-terminated, **lubricants**; rubber molding **compns**. with good ozone resistance and mold release and low **friction**)

IT 9003-35-4, Phenol-formaldehyde copolymer
RL: **MOA (Modifier or additive use)**; USES (Uses)
(additives; rubber molding compns. with good ozone resistance and mold release and low **friction**)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, hydrogenated; rubber molding compns. with good ozone resistance and mold release and low **friction**)

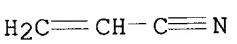
IT 25190-89-0, Hexafluoropropylene-tetrafluoroethylene-vinylidene fluoride copolymer
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(rubber; rubber molding compns. with good ozone resistance and mold release and low **friction**)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, hydrogenated; rubber molding compns. with good ozone resistance and mold release and low **friction**)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

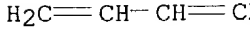
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 14 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:139667 HCAPLUS
DN 126:145009
TI Self-lubricating styrene polymer compositions
IN Oda, Takeshi; Okaniwa, Shizuo
PA Denki Kagaku Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L025-02
ICS C08K005-49; C08K005-524; C08L025-02; C08L083-04
CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08325426	A2	19961210	JP 1995-138288	19950605

OS MARPAT 126:145009

AB The title compns. giving injection moldings with no black streak comprise styrene polymers 100, silicone **oils** 0.5-10, and P compds. P(O)HXY (X, Y = R, OR; R = alkyl, arom. groups; X-P-Y may form cyclic structures) 0.05-1 parts. Thus, Denka Styrol HI-RQ (high-impact polystyrene) 100, SH 200 (silicone **oil**) 3.0, and HCA (heat stabilizer) 0.2 part were melt-kneaded, pelletized, and injection-molded to give test pieces with no black streak, tensile strength 230 kg/cm2, Izod impact strength 7.4 kg-cm/cm, melt flow index 6.6 g/10 min, heat distortion temp. 79.degree. (ASTM D, resp.), and dynamic **friction** coeff. 0.027.

ST polystyrene silicone **oil** lubricant; phosphorus compd polystyrene molding; heat stabilizer polystyrene molding

IT Polysiloxanes
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricants**; self-lubricating styrene polymer **compns**. contg. silicone **oil** and phosphorus compds.)

IT Heat stabilizers
(phosphorus compds.; self-lubricating styrene polymer compns. contg. silicone **oil** and phosphorus compds.)

IT **Lubricants**
(silicone **oils**; self-lubricating styrene polymer **compns**. contg. silicone **oil** and phosphorus compds.)

IT 42557-10-8, SH 200
RL: **MOA (Modifier or additive use)**; USES (Uses)
(SH 200; self-lubricating styrene polymer compns. contg. silicone **oil** and phosphorus compds.)

IT 100-42-5D, Styrene, polymers
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(impact-resistant; self-lubricating styrene polymer compns. contg. silicone **oil** and phosphorus compds.)

IT 4712-55-4, Diphenyl phosphite 31900-57-9D, Dimethylsilanediol homopolymer, trimethylsilyl-terminated 35948-25-5, HCA (heat stabilizer)
RL: **MOA (Modifier or additive use)**; USES (Uses)
(self-lubricating styrene polymer compns. contg. silicone **oil** and phosphorus compds.)

IT 9003-53-6, Denka Styrol GP 1 **9003-56-9**, Denka ABS-GR 1000 148498-96-8, HI-RQ
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(self-lubricating styrene polymer compns. contg. silicone **oil** and phosphorus compds.)

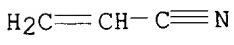
IT **9003-56-9**, Denka ABS-GR 1000
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(self-lubricating styrene polymer compns. contg. silicone **oil** and phosphorus compds.)

RN 9003-56-9 HCAPLUS

CN 2-Propenenitrile, polymer with 1,3-butadiene and ethenylbenzene (9CI) (CA INDEX NAME)

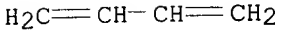
CM 1

CRN 107-13-1
CMF C3 H3 N



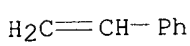
CM 2

CRN 106-99-0
CMF C4 H6



CM 3

CRN 100-42-5
CMF C8 H8



L46 ANSWER 15 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:131889 HCAPLUS
DN 126:132559
TI Rubber compositions with low abrasion property and improved lubricity
IN Kurose, Isao; Aoi, Hiroyasu; Takahashi, Tadashi
PA Uchama Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L021-00
ICS C08K007-22; C08L021-00; C08L083-04; C08L027-12
CC 39-9 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 42
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08319379	A2	19961203	JP 1995-59735	19950222

PI JP 08319379 A2 19961203 JP 1995-59735 19950222

AB The **compns.**, useful for sealing materials, are prepd. by kneading rubbers and plastic.grained particles with connected cell structure, which are impregnated with **lubricants**, and vulcanization molding. Thus, 100 parts a nitrile rubber and 5 parts nylon particles impregnated with 5 parts a silicone **oil** (1000CS) were kneaded, vulcanized, and molded to give a test piece with coeff. of kinetic **friction** 1.0 .mu..

ST rubber lubricant impregnation nylon particle; abrasion resistance rubber lubricant silicone **oil**; fluorine **oil** lubricant nitrile rubber; **acrylic** rubber lubricant connected cell plastics; sealant lubricant impregnated plastic particle rubber

IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(di-Me, mono(hydroxyalkyl) group-terminated, **lubricants**, X 22-170B; rubber **compns.** contg. **lubricants** and plastic particles with low abrasion property)

IT Polyoxyalkylenes, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(fluorine-contg., **oils, lubricants**; rubber **compns.** contg. **lubricants** and plastic particles with low abrasion property)

IT Polysiloxanes, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)

(**lubricants**, 1000CS, 10CS; rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT Polyamides, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(particles; rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT Fluoropolymers, uses
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(polyoxyalkylene-, **oils**, **lubricants**; rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT **Lubricants**
Sealing **compositions**
(rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT **Acrylic** rubber
Fluoro rubber
Nitrile rubber, properties
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT 9016-00-6D, Dimethylsilanediol homopolymer, sru, mono(hydroxyalkyl)-terminated 31900-57-9D, Dimethylsilanediol homopolymer, mono(hydroxyalkyl)-terminated
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(**lubricants**; rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT 105060-59-1, Demnum S 100
RL: **MOA (Modifier or additive use)**; TEM (Technical or engineered material use); USES (Uses)
(**oils**, **lubricants**; rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(nitrile rubber, rubber **compns**. contg. **lubricants** and plastic particles with low abrasion property)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N

CM 2

CRN 106-99-0
CMF C4 H6

$H_2C{=}CH{-}CH{=}CH_2$

L46 ANSWER 16 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1997:116524 HCAPLUS
DN 126:119876
TI **Lubricant compositions** containing **superabsorbent** polymer
IN Levy, Richard
PA Lee County Mosquito Control District, USA
SO PCT Int. Appl., 64 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM **C10M111-04**
ICS **C10M169-04; C10M173-00**
ICI C10N030-06, C10N040-20
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9640849	A1	19961219	WO 1996-US10246	19960606
	W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG				
	RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN				
	CA 2223286	AA	19961219	CA 1996-2223286	19960606
	AU 9662780	A1	19961230	AU 1996-62780	19960606
	AU 691758	B2	19980521		
	EP 851908	A1	19980708	EP 1996-921587	19960606
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 11507678	T2	19990706	JP 1996-502259	19960606
PRAI	US 1995-487436		19950607		
	US 1996-583587		19960105		
	WO 1996-US10246		19960606		

AB A process is disclosed for manufg. a **lubricant compn.** comprising combining a **superabsorbent** polymer with a material for decreasing **friction** between **moving surfaces**. The **superabsorbent** polymer absorbs from .apprx.25 to greater than 100 times its wt. in **water** and may comprise a polymer of **acrylic** acid, an **acrylic** ester, **acrylonitrile** or **acrylamide**, including co-polymers thereof or starch graft co-polymers thereof or mixts. thereof. A product produced by the process includes the material for decreasing **friction** comprising a petroleum lubricant contg. an additive, **water** contg. an additive, synthetic lubricant, **grease**, **solid lubricant** or metal working lubricant, contg. an additive, **water** contg. an additive, synthetic lubricant, **grease**, **solid lubricant** or metal working lubricant, wherein the synthetic lubricant, **grease**, **solid lubricant** or metal working lubricant optionally contain an additive. A process comprising controlling the delivery of a lubricant to at least one of two **moving surfaces** to decrease **friction** between said **moving surfaces**, is also disclosed. This process includes applying the **lubricant compn.** to at lest one of the surfaces. The **lubricant compn.** in this instance comprises a **superabsorbent** polymer combined with a material for decreasing **friction** between **moving surfaces**, wherein the material for decreasing

friction comprises a petroleum **lubricant, water**
, synthetic **lubricant, grease, solid**
lubricant or metal working **lubricant**, and optionally an
additive.

ST lubricant **superabsorbent** polymer

IT Lubricating **oils**
RL: **MOA (Modifier or additive use)**; USES (Uses)
(Royco 481 **Oil** and Marvel Mystery **Oil**;
lubricant compns. contg. **superabsorbent**
polymer)

IT **Lubricants**
Lubricating **greases**
(**lubricant compns.** contg. **superabsorbent**
polymer)

IT **Acrylic** polymers, uses
Asbestos
Mica-group minerals, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant compns.** contg. **superabsorbent**
polymer)

IT Metalworking
(**lubricants; lubricant compns.** contg.
superabsorbent polymer)

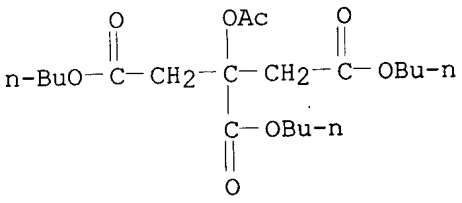
IT **Lubricants**
(metalworking; **lubricant compns.** contg.
superabsorbent polymer)

IT **77-90-7 598-63-0**, Lead carbonate **1303-96-4**,
Borax **1314-13-2**, Zinc oxide, uses **1317-33-5**,
Molybdenum disulfide, uses **1319-46-6**, White lead
1327-33-9, Antimony oxide **7429-90-5**, Aluminum, uses
7439-92-1, Lead, uses **7439-97-6**, Mercury, uses
7440-22-4, Silver, uses **7440-28-0**, Thallium, uses
7440-29-1, Thorium, uses **7440-31-5**, Tin, uses
7440-44-0, Carbon, uses **7440-50-8**, Copper, uses
7440-55-3, Gallium, uses **7440-57-5**, Gold, uses
7440-74-6, Indium, uses **7646-79-9**, Cobalt chloride, uses
7779-90-0, Zinc phosphate **7782-42-5**, Graphite, uses
7790-80-9, Cadmium iodide **9003-05-8**,
Polyacrylamide 10043-11-5, Boron nitride, uses
10108-64-2, Cadmium chloride **10124-54-6**, Manganese
phosphate **10294-26-5**, Silver sulfate **10402-24-1**, Iron
phosphate **12138-09-9**, Tungsten disulfide **12597-70-5**,
Bronze **12597-71-6**, Brass, uses **12684-19-4**, Lead iodide
12704-93-7, Aquasorb **14807-96-6**, Talc, uses
25014-41-9, **Polyacrylonitrile 52292-17-8**,
Arosurf 66E2 **57175-99-2**, Babbit **64176-75-6**, Niobium
selenide **124448-23-3**, Alcosorb AB3F **127289-34-3**,
Aquastore F **150523-07-2**, SuperSorb **159074-52-9**, Sanwet
Im-1500F **186270-48-4**, **Water**-Lock A 140
186270-50-8, Aridell 11250 **186270-52-0**, Favor CA 100
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant compns.** contg. **superabsorbent**
polymer)

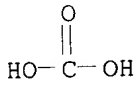
IT **77-90-7 598-63-0**, Lead carbonate **1303-96-4**,
Borax **1314-13-2**, Zinc oxide, uses **1317-33-5**,
Molybdenum disulfide, uses **1319-46-6**, White lead
1327-33-9, Antimony oxide **7429-90-5**, Aluminum, uses
7439-92-1, Lead, uses **7439-97-6**, Mercury, uses
7440-22-4, Silver, uses **7440-28-0**, Thallium, uses
7440-29-1, Thorium, uses **7440-31-5**, Tin, uses
7440-44-0, Carbon, uses **7440-50-8**, Copper, uses
7440-55-3, Gallium, uses **7440-57-5**, Gold, uses
7440-74-6, Indium, uses **7646-79-9**, Cobalt chloride, uses
7779-90-0, Zinc phosphate **7782-42-5**, Graphite, uses

7790-80-9, Cadmium iodide **9003-05-8**, **Polyacrylamide 10043-11-5**, Boron nitride, uses **10108-64-2**, Cadmium chloride **10124-54-6**, Manganese phosphate **10294-26-5**, Silver sulfate **10402-24-1**, Iron phosphate **12138-09-9**, Tungsten disulfide **12597-70-5**, Bronze **12597-71-6**, Brass, uses **12684-19-4**, Lead iodide **12704-93-7**, Aquasorb **14807-96-6**, Talc, uses **25014-41-9**, **Polyacrylonitrile 52292-17-8**, Arosurf 66E2 **57175-99-2**, Babbit **64176-75-6**, Niobium selenide **124448-23-3**, Alcosorb AB3F **127289-34-3**, Aquastore F **150523-07-2**, SuperSorb **159074-52-9**, Sanwet Im-1500F **186270-48-4**, **Water**-Lock A 140 **186270-50-8**, Aridell 11250 **186270-52-0**, Favor CA 100
RL: **MOA (Modifier or additive use)**; USES (Uses)
(**lubricant compns.** contg. **superabsorbent** polymer)

RN 77-90-7 HCAPLUS
CN 1,2,3-Propanetricarboxylic acid, 2-(acetyloxy)-, tributyl ester (9CI) (CA INDEX NAME)



RN 598-63-0 HCAPLUS
CN Carbonic acid, lead(2+) salt (1:1) (8CI, 9CI) (CA INDEX NAME)

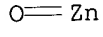


● Pb(II)

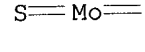
RN 1303-96-4 HCAPLUS
CN Borax (B4Na2O7.10H2O) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1314-13-2 HCAPLUS
CN Zinc oxide (ZnO) (9CI) (CA INDEX NAME)



RN 1317-33-5 HCAPLUS
CN Molybdenum sulfide (MoS2) (8CI, 9CI) (CA INDEX NAME)



RN 1319-46-6 HCAPLUS
CN Lead, bis[carbonato(2-)]dihydroxytri- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 1327-33-9 HCAPLUS
CN Antimony oxide (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 7429-90-5 HCAPLUS
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

Al

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7439-97-6 HCAPLUS
CN Mercury (8CI, 9CI) (CA INDEX NAME)

Hg

RN 7440-22-4 HCAPLUS
CN Silver (8CI, 9CI) (CA INDEX NAME)

Ag

RN 7440-28-0 HCAPLUS
CN Thallium (8CI, 9CI) (CA INDEX NAME)

Tl

RN 7440-29-1 HCAPLUS
CN Thorium (8CI, 9CI) (CA INDEX NAME)

Th

RN 7440-31-5 HCAPLUS
CN Tin (8CI, 9CI) (CA INDEX NAME)

Sn

RN 7440-44-0 HCAPLUS
CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

C

RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 7440-55-3 HCAPLUS
CN Gallium (8CI, 9CI) (CA INDEX NAME)

Ga

RN 7440-57-5 HCAPLUS
CN Gold (8CI, 9CI) (CA INDEX NAME)

Au

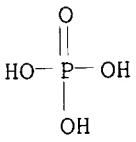
RN 7440-74-6 HCAPLUS
CN Indium (8CI, 9CI) (CA INDEX NAME)

In

RN 7646-79-9 HCAPLUS
CN Cobalt chloride (CoCl2) (8CI, 9CI) (CA INDEX NAME)

Cl—Co—Cl

RN 7779-90-0 HCAPLUS
CN Phosphoric acid, zinc salt (2:3) (8CI, 9CI) (CA INDEX NAME)



● 3/2 Zn

RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

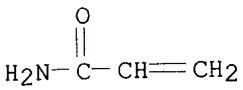
RN 7790-80-9 HCAPLUS
CN Cadmium iodide (CdI2) (6CI, 8CI, 9CI) (CA INDEX NAME)

I—Cd—I

RN 9003-05-8 HCAPLUS
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)

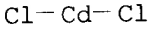
CM 1

CRN 79-06-1
CMF C3 H5 N O

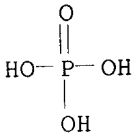


RN 10043-11-5 HCAPLUS
CN Boron nitride (BN) (8CI, 9CI) (CA INDEX NAME)

RN 10108-64-2 HCAPLUS
CN Cadmium chloride (CdCl2) (7CI, 8CI, 9CI) (CA INDEX NAME)

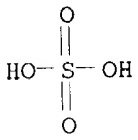


RN 10124-54-6 HCAPLUS
CN Phosphoric acid, manganese salt (8CI, 9CI) (CA INDEX NAME)



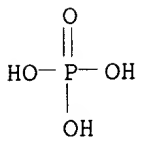
● x Mn(x)

RN 10294-26-5 HCAPLUS
CN Sulfuric acid, disilver(1+) salt (8CI, 9CI) (CA INDEX NAME)



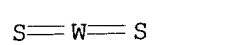
● 2 Ag(I)

RN 10402-24-1 HCAPLUS
CN Phosphoric acid, iron salt (8CI, 9CI) (CA INDEX NAME)



● x Fe(x)

RN 12138-09-9 HCAPLUS
CN Tungsten sulfide (WS2) (8CI, 9CI) (CA INDEX NAME)



RN 12597-70-5 HCAPLUS
CN Bronze (9CI) (CA INDEX NAME)

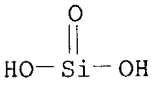
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 12597-71-6 HCAPLUS
CN Brass (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 12684-19-4 HCAPLUS
CN Lead iodide (9CI) (CA INDEX NAME)

Component	Ratio	Component Registry Number
I	x	14362-44-8
Pb	x	7439-92-1

RN 12704-93-7 HCAPLUS
CN Aquasorb (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 14807-96-6 HCAPLUS
CN Talc (Mg3H2(SiO3)4) (9CI) (CA INDEX NAME)

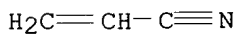


● 3/4 Mg

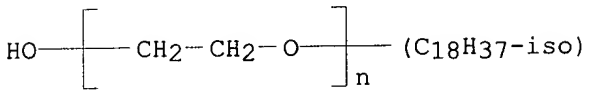
RN 25014-41-9 HCAPLUS
CN 2-Propenenitrile, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



RN 52292-17-8 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-isooctadecyl-.omega.-hydroxy- (9CI) (CA INDEX NAME)



RN 57175-99-2 HCAPLUS
CN Lead alloy, base, (Babbitt) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 64176-75-6 HCAPLUS
CN Niobium selenide (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 124448-23-3 HCAPLUS
CN Alcosorb AB 3F (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 127289-34-3 HCAPLUS
CN Aquastore F (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 150523-07-2 HCAPLUS
CN SuperSorb (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 159074-52-9 HCAPLUS
CN Sanwet IM 1500F (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 186270-48-4 HCAPLUS
CN Water-Lock A 140 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 186270-50-8 HCAPLUS
CN Aridell 11250 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 186270-52-0 HCAPLUS
CN Favor CA 100 (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L46 ANSWER 17 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1996:693813 HCAPLUS
DN 125:302907
TI Block copolymer compositions with good lubricity and blocking resistance at high temperature and heat-shrinkable films therefrom
IN Totani, Hideki; Muraoka, Masaaki; Umedo, Masashi
PA Denki Kagaku Kogyo Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 15
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L053-02
ICS B29C055-02; C08J005-18; C08K003-00; C08L025-04; C08L091-06
ICI B29K025-00, B29L007-00
CC 38-3 (Plastics Fabrication and Uses)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08225712	A2	19960903	JP 1995-288959	19951107
PRAI	JP 1994-275194		19941109		

AB Compns. with good film-forming ability, useful for labels, cap seals, and packaging films, contain (a) 20-100 parts 50:50-90:10 vinyl arom. hydrocarbon-conjugated diene block copolymers, (b) 0-80 parts .gtoreq.1 polymer selected from vinyl arom. hydrocarbon polymers, vinyl arom. hydrocarbon-(meth)**acrylic** acid (ester) copolymers (vinyl arom. hydrocarbon content .gtoreq.95%), and rubber-modified styrene polymers, (c) 2.1-50 parts (vs. 100 parts a + b) inorg. fillers, and (d) 0.05-15 parts (vs. 100 parts a + b) polyethylene or amide-based waxes. Thus, 3.74 kg styrene was polymd. in cyclohexane/THF in the presence of BuLi and further polymd. with 14.5 kg styrene and 3.74 kg butadiene to obtain a block copolymer (no.-av. mol. wt. 166,000, styrene block ratio 78%), 100 parts of which was mixed with 5 parts SiO2 and 3 parts N,N'-ethylenebis(stearic acid amide), pelletized, extruded, and stretched in the transverse direction to give a film showing static **friction** coeff. [tanX; X = **friction** angle (.degree.)] 0.26 and good blocking resistance after immersion in **H2O** at 80.degree..

ST antiblocking film styrene butadiene block polymer; heat shrinkable film butadiene styrene polymer

IT **Lubricants**
(amides and polyethylene waxes; arom. vinyl compd.-conjugated diene block copolymer **compns.** for antiblocking heat-shrinkable films with good lubricity)

IT Plastics, film
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

IT Glass, oxide
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(beads, filler; arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

IT Heat-shrinkable materials
(films, arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

IT **25034-86-0P**, Methyl **methacrylate**-styrene copolymer
25767-47-9P, n-Butyl **acrylate**-styrene copolymer
106107-54-4P, Butadiene-styrene block copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

IT 9003-53-6, GP 1 106974-54-3, HIE 4
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

IT 7631-86-9, Silica, uses
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(filler; arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

IT 110-30-5, N,N'-Ethylenebisstearic amide
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**lubricant**; arom. vinyl compd.-conjugated diene block copolymer **compns.** for antiblocking heat-shrinkable films with good lubricity)

IT 9002-88-4, Polyethylene

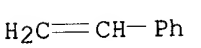
RL: **MOA (Modifier or additive use)**; PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(wax, **lubricant**; arom. vinyl compd.-conjugated diene block copolymer **compns**. for antiblocking heat-shrinkable films with good lubricity)

IT **25034-86-0P**, Methyl **methacrylate**-styrene copolymer
25767-47-9P, n-Butyl **acrylate**-styrene copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(arom. vinyl compd.-conjugated diene block copolymer compns. for antiblocking heat-shrinkable films with good lubricity)

RN 25034-86-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

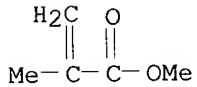
CM 1

CRN 100-42-5
CMF C8 H8



CM 2

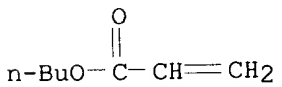
CRN 80-62-6
CMF C5 H8 O2



RN 25767-47-9 HCAPLUS
CN 2-Propenoic acid, butyl ester, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

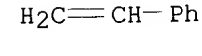
CM 1

CRN 141-32-2
CMF C7 H12 O2



CM 2

CRN 100-42-5
CMF C8 H8



L46 ANSWER 18 OF 52 HCAPLUS COPYRIGHT 2001 ACS
KATHLEEN FULLER EIC 1700 308-4290

AN 1996:634932 HCAPLUS
DN 125:249875
TI Fluoro rubber and fluoro thermoplastic resin-based composition for V ring
IN Fukuzawa, Satoru; Oki, Yoshiro
PA Ntn Toyo Bearing Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM **C10M107-38**
ICS C08K003-00; C08L027-12; C09K003-10; F16J015-16
ICI C10N020-00, C10N020-04, C10N020-06, C10N040-34, C10N050-08
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 39
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 08193197	A2	19960730	JP 1995-206104	19950811
PRAI	JP 1994-190651		19940812		

AB Non-adhesive, low **friction** and abrasion-resistant V ring was prepd. from lubricative rubber compn. consisting of fluoro rubber, thermoplastic fluoro resin, and low mol. wt. (< 5 .times. 104) fluoro copolymer. Thus a **compn.** was prepd. by blending vinylidene fluoride-fluoropropylene copolymer-based fluoro rubber (Tecnoflon FOR 420) 70 wt% with tetrafluoroethylene-ethylene copolymer (Aflon COP) 30 wt%, MT carbon 5 wt%, sodium stearate 1 wt%, MgO 3 wt% and Ca(OH) 6 wt% at temp. 60.degree., then adding a low mol. wt. fluoro copolymer (**Lubricant** L 169) 30 wt% into the mixt. and blending it at 70.degree.-90.degree.. The compn. sheet prepd. was vulcanized at 170.degree. under press **pressure** 7 kgf/cm2 for 10 min and second vulcanized at 230.degree., under free **pressure** for 16 h. The compn. sheet showed low **friction** and abrasion-resistant properties, and good non-adhesive and mech. characteristics.

ST fluoro rubber thermoplastic compn V ring; tetrafluoroethylene ethylene copolymer fluoro rubber compn

IT Rubber, nitrile, uses
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(JSR 200S, JSR 240S; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT Carbon black, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(compn. contg.; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT Vulcanization
(in prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT Phenolic resins, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT Fluoropolymers
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT Rubber, synthetic
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(hexafluoropropene-vinylidene fluoride, Tecnoflon FOR 420; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT 822-16-2, Sodium stearate 1305-62-0, Calcium hydroxide, uses
1309-48-4, Magnesium oxide, uses **7440-44-0**, Carbon, uses
114237-33-1, Bellpearl H 300
RL: **MOA (Modifier or additive use)**; USES (Uses)
(compn. contg.; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT 9002-84-0, Polytetrafluoroethylene 25038-71-5, Aflon COP
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT **9003-18-3**
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(rubber, JSR 200S, JSR 240S; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT 9011-17-0, Hexafluoropropene-vinylidene fluoride copolymer
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(rubber; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT **7782-42-5**, Graphite, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(spherical, compn. contg.; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

IT **7440-44-0**, Carbon, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(compn. contg.; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

RN 7440-44-0 HCAPLUS
CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

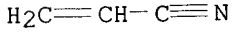
C

IT **9003-18-3**
RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(rubber, JSR 200S, JSR 240S; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6

$H_2C{=}CH{-}CH{=}CH_2$

IT **7782-42-5**, Graphite, uses
RL: **MOA (Modifier or additive use)**; USES (Uses)
(spherical, compn. contg.; prepn. of fluoro rubber and fluoro thermoplastic resin-based compn. for V ring)
RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

L46 ANSWER 19 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:910648 HCAPLUS
DN 124:57924
TI Thermoplastic resin compositions with excellent mechanical properties, moldability, and sliding properties
IN Sugiura, Motoyuki; Ito, Tetsuya; Oomura, Hiroshi
PA Nippon Oils & Fats Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L101-00
ICS C08L053-00; C08L083-10
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07216240	A2	19950815	JP 1994-13819	19940207

PI JP 07216240 A2 19950815 JP 1994-13819 19940207
AB Title compns. contain (A) siloxane copolymers obtained by copolymg. 5-85% CH2:CR1CO2(CH2)3SiR22(OSiR32)nOSiR43 (I) and/or CH2:CR1CO2(CH2)3SiR22(OSiR32)nOSiR22(CH2)3OCOC(R1):CH2 [R1 = H, Me; R2 = Me, Et, Ph, (OSiR52)mOSiR63; R3 = H, Ph, CpH2p+1; R4 = Me, Et, Ph; n .gtoreq. 1; p = 1-10; R5 = H, Ph, CpH2p+1; R6 = Me, Et, Ph; m .gtoreq. 1] and 15-95% .gtoreq.1 vinyl monomer or (B) copolymers composed of the siloxane copolymer segments and other vinyl polymer segments. Thus, styrene 1050, **acrylonitrile** 450, and I (R1-4 = Me; no.-av. mol. wt. 5000) 500 g were treated at 70.degree. for 5 h in **H2O** contg. poly(vinyl alc.) in the presence of Peroyl 355 and Nofmer MSD to give a copolymer (II). A mixt. of 99% 1013B and 1% II was pelletized and injection-molded to give test pieces showing Izod impact strength 7 kg-cm/cm, bending strength 1050 kg/cm2, heat distortion temp. 74.degree., kinetic **friction** coeff. (to steel) 0.26, spiral flow 730 mm at 260.degree., and good appearance.
ST **acrylic** siloxane lubricant thermoplastic resin; sliding property **acrylic** siloxane blend thermoplastic; polyamide **acrylic** siloxane lubricant
IT Antifriction materials
Impact-resistant materials
Lubricants
(thermoplastic resin **compns**. contg. **acrylic** siloxane **lubricants**)
IT Polycarbonates, properties
Polyesters, properties
Polyoxymethylenes, properties
Polyoxyphenylenes
Polythiophenylenes
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(thermoplastic resin **compns**. contg. **acrylic** siloxane **lubricants**)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
; PREP (Preparation); USES (Uses)
(**acrylic**, thermoplastic resin **compns**. contg.
acrylic siloxane **lubricants**)

IT **172083-77-1P 172083-78-2P 172274-74-7P**
172274-75-8P
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
; PREP (Preparation); USES (Uses)
(thermoplastic resin **compns**. contg. **acrylic**
siloxane **lubricants**)

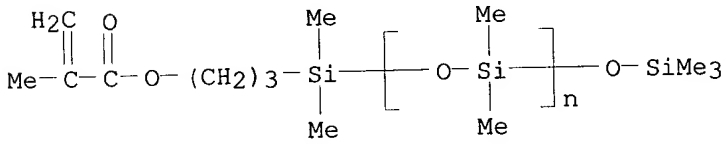
IT **9003-56-9**, Stylac ABS 283 24936-68-3, Panlite L 1250, properties
24968-12-5, 1401X06 25037-45-0, Bisphenol A-carbonic acid copolymer
25038-54-4, 1013B, properties 25212-74-2, Fortron KPS 26062-94-2,
1,4-Butanediol-terephthalic acid copolymer 112002-29-6, Noryl 534J801
166799-47-9, Tenac 4510
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(thermoplastic resin **compns**. contg. **acrylic**
siloxane **lubricants**)

IT **172083-77-1P 172083-78-2P 172274-74-7P**
172274-75-8P
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**
; PREP (Preparation); USES (Uses)
(thermoplastic resin **compns**. contg. **acrylic**
siloxane **lubricants**)

RN 172083-77-1 HCAPLUS
CN 2-Propenenitrile, polymer with .alpha.-[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]-.omega.-[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and ethenylbenzene, graft (9CI) (CA INDEX NAME)

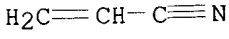
CM 1

CRN 123109-42-2
CMF (C2 H6 O Si)n C12 H26 O3 Si2
CCI PMS



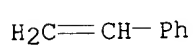
CM 2

CRN 107-13-1
CMF C3 H3 N



CM 3

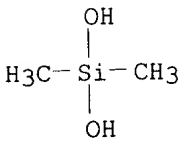
CRN 100-42-5
CMF C8 H8



RN 172083-78-2 HCAPLUS
CN 2-Propenenitrile, polymer with dimethylsilanediol and ethenylbenzene, graft (9CI) (CA INDEX NAME)

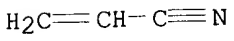
CM 1

CRN 1066-42-8
CMF C2 H8 O2 Si



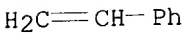
CM 2

CRN 107-13-1
CMF C3 H3 N



CM 3

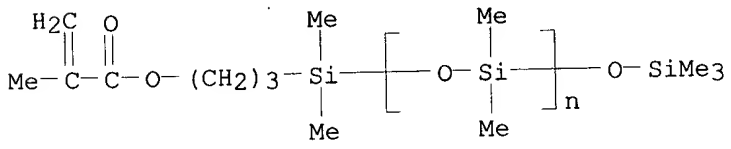
CRN 100-42-5
CMF C8 H8



RN 172274-74-7 HCAPLUS
CN 2-Propenenitrile, polymer with .alpha.-[dimethyl[3-[(2-methyl-1-oxo-2-propenyl)oxy]propyl]silyl]-.omega.-[(trimethylsilyl)oxy]poly[oxy(dimethylsilylene)] and ethenylbenzene, block, graft (9CI) (CA INDEX NAME)

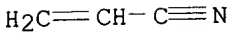
CM 1

CRN 123109-42-2
CMF (C2 H6 O Si)n C12 H26 O3 Si2
CCI PMS



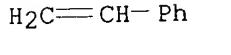
CM 2

CRN 107-13-1
CMF C3 H3 N



CM 3

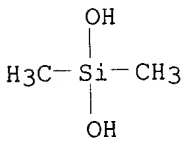
CRN 100-42-5
CMF C8 H8



RN 172274-75-8 HCAPLUS
CN 2-Propenenitrile, polymer with dimethylsilanediol and ethenylbenzene, block, graft (9CI) (CA INDEX NAME)

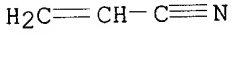
CM 1

CRN 1066-42-8
CMF C2 H8 O2 Si



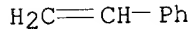
CM 2

CRN 107-13-1
CMF C3 H3 N



CM 3

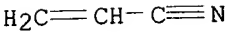
CRN 100-42-5
CMF C8 H8



IT **9003-56-9**, Stylac ABS 283
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(thermoplastic resin **compns.** contg. **acrylic** siloxane **lubricants**)
RN 9003-56-9 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene and ethenylbenzene (9CI) (CA INDEX NAME)

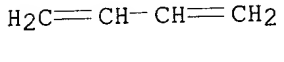
CM 1

CRN 107-13-1
CMF C3 H3 N



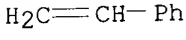
CM 2

CRN 106-99-0
CMF C4 H6



CM 3

CRN 100-42-5
CMF C8 H8



L46 ANSWER 20 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:884607 HCAPLUS
DN 123:315831
TI **Water**-repellent vinyl chloride resin compositions
IN Myaki, Yoshuki; Sugiura, Yoshihiko
PA Tosoh Corp, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L027-06
ICS C08L053-00; C08L083-10
CC 37-6 (Plastics Manufacture and Processing)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07216171	A2	19950815	JP 1994-6813	19940126

PI JP 07216171 A2 19950815 JP 1994-6813 19940126

AB The compns., giving molded products with low **friction** and good releasability, useful for agricultural films, etc., contain **polymethacrylate**-siloxane block copolymers having (SiR1R2O)m(SiR3R4O)n (R1-4 = H, halo, alkyl, aryl, halohydrocarbyl; m, n = 3-1000) blocks with the siloxane block content 0.01-10% (based on the compns.). Thus, 4,4'-azobis(4-cyanopentanoic acid) 5.6, 1,1'-carbonyldiimidazole 7.1, and X 22-161C 90 g were reacted at a room temp. for 5 h in CH2Cl2 to give 93 g macroazo initiator, 12.5 g of which was treated with 250 g Me **methacrylate** at 70.degree. for 5 h in **H2O** in the presence of Gohsenol KH 20 and dodecanethiol to give 195 g block polymer (6.0% di-Me siloxane). TH 800 (PVC) 80, the block polymer 20, an Sn-based stabilizer 4.5, and a phosphate stabilizer 0.5 part were blended, kneaded, and pressed to give a plate showing contact angle 85, static **friction** coeff. 0.22, haze 24, tensile strength 650 kg/cm2, and Charpy impact strength 4.0 kg-cm/cm2.

ST **polymethacrylate** silicone blend PVC repellency; impact resistance PVC silicone blend; antifriction PVC silicone **polymethacrylate** blend; transparency PVC silicone **polymethacrylate** blend

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)** ; PREP (Preparation); USES (Uses)

(**polymethacrylate**-, block; vinyl chloride resin compns. contg. **polymethacrylate**-siloxane block polymers with good **water** repellency and low **friction**)

IT Impact-resistant materials
Lubricants
Transparent materials
Water-resistant materials
(vinyl chloride resin **compns**. contg. **polymethacrylate**-siloxane block polymers with good **water** repellency and low **friction**)

IT 9002-86-2, PVC
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(TH 800; vinyl chloride resin compns. contg. **polymethacrylate**-siloxane block polymers with good **water** repellency and low **friction**)

IT 80-62-6DP, Methyl **methacrylate**, polymers with siloxanes, block
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)**; PREP (Preparation); USES (Uses)
(vinyl chloride resin compns. contg. **polymethacrylate**-siloxane block polymers with good **water** repellency and low **friction**)

L46 ANSWER 21 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:856461 HCAPLUS
DN 123:316640
TI Lubricating rubber compositions with excellent abrasion resistance
IN Oki, Yoshiro; Minamoto, Ichiro
PA Ntn Toyo Bearing Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L021-00
ICS C08K007-18; C08L027-18
CC 39-9 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07188470	A2	19950725	JP 1993-330180	19931227

PI JP 07188470 A2 19950725 JP 1993-330180 19931227
AB The compns. comprise synthetic org. rubbers, powd. tetrafluoroethylene resins sticking carbon materials, and spherical graphite. Thus, 100 parts JSR-N 230S was blended with stearic acid 1, carbon black 30, vulcanization accelerators 4, DOP 10, ZnO 1, and S 0.5 part, further blended with 10 parts PTFE/graphite coppt. and 30 parts Bellpearl C 2000 (spherical graphite), kneaded with a roll, press molded at 150.degree., and post-vulcanized at 180.degree. to give a sheet showing **friction** coeff. 0.40, abrasion coeff. 85 .times. 10-10 cm3/kg-m, contact angle <60 against **H2O**, tensile strength 180 kg/cm2, elongation 500%, and JIS-A hardness 70.
ST nitrile rubber lubricant PTFE graphite; abrasion resistance rubber lubricating
IT Rubber, urethane, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(Miractran E 270PEND; abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)
IT **Lubricants**
(PTFE and graphite; abrasion-resistant lubricating rubber **compns**. contg. PTFE and graphite)
IT Abrasion-resistant materials
(abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)
IT Rubber, nitrile, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT Rubber, synthetic
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(ethylene-ethylidenenorbornene-propene, JSR-EP 33; abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT Rubber, synthetic
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(hexafluoropropene-vinylidene fluoride, Tecnoflon F 5350; abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT Rubber, butadiene, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(hydroxy-terminated, Poly bd-R 45HT; abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT **7440-44-0**, Mesocarbon Microbeads, properties **7782-42-5**, Graphite, properties 9002-84-0, PTFE · 122302-73-2, Bellpearl C 2000
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(rubber, abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT 9003-17-2
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(rubber, hydroxy-terminated, Poly bd-R 45HT; abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

IT **7440-44-0**, Mesocarbon Microbeads, properties **7782-42-5**, Graphite, properties
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

RN 7440-44-0 HCAPLUS
CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

C

RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

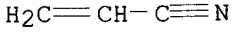
C

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(rubber, abrasion-resistant lubricating rubber compns. contg. PTFE and graphite)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

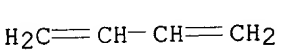
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 22 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:856460 HCAPLUS
DN 123:316639
TI Lubricating rubber compositions with excellent abrasion resistance
IN Oki, Yoshiro; Minamoto, Ichiro
PA Ntn Toyo Bearing Co Ltd, Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L009-02
ICS C08K007-18; C08L027-18
CC 39-9 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07188469	A2	19950725	JP 1993-329414	19931227
	JP 11080428	A2	19990326	JP 1998-191530	19931227
PRAI	JP 1993-329414		19931227		

AB The compns. comprise **acrylonitrile**-butadiene rubber, powd. tetrafluoroethylene resins sticking carbon materials, and spherical graphite. Thus, 100 parts JSR-N 230S was blended with stearic acid 1, carbon black 30, vulcanization accelerators 4, DOP 10, ZnO 1, and S 0.5 part, further blended with 10 parts PTFE/graphite coppt. and 30 parts Bellpearl C 2000 (spherical graphite), kneaded with a roll, press molded at 150.degree., and post-vulcanized at 180.degree. to give a sheet showing **friction** coeff. 0.40, abrasion coeff. 85 .times. 10-10 cm3/kg-m, contact angle <60 against **H2O**, tensile strength 180 kg/cm2, elongation 500%, and JIS-A hardness 70.

ST nitrile rubber lubricant PTFE graphite; abrasion resistance nitrile rubber

IT **Lubricants**
(PTFE and graphite; abrasion-resistant lubricating nitrile rubber **compns**. contg. PTFE and graphite)

IT Abrasion-resistant materials
(abrasion-resistant lubricating nitrile rubber compns. contg. PTFE and graphite)

IT Rubber, nitrile, properties
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(abrasion-resistant lubricating nitrile rubber compns. contg. PTFE and graphite)

IT **7440-44-0**, Mesocarbon Microbeads, properties **7782-42-5**, Graphite, properties 9002-84-0, PTFE 122302-73-2, Bellpearl C 2000
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES (Uses)
(abrasion-resistant lubricating nitrile rubber compns. contg. PTFE and graphite)

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(rubber, abrasion-resistant lubricating nitrile rubber compns. contg. PTFE and graphite)

IT **7440-44-0**, Mesocarbon Microbeads, properties **7782-42-5**, Graphite, properties
RL: **MOA (Modifier or additive use)**; PRP (Properties); USES

(Uses)
(abrasion-resistant lubricating nitrile rubber compns. contg. PTFE and graphite)
RN 7440-44-0 HCAPLUS
CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

C

RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

IT **9003-18-3**
RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(rubber, abrasion-resistant lubricating nitrile rubber compns. contg. PTFE and graphite)
RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N

$H_2C{=}CH{-}C{\equiv}N$

CM 2

CRN 106-99-0
CMF C4 H6

$H_2C{=}CH{-}CH{=}CH_2$

L46 ANSWER 23 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1995:773090 HCAPLUS
DN 123:230284
TI Polymer compositions giving transparent films with good printability and lubricating ability
IN Maeda, Yoshiharu; Kojima, Shiro
PA Toa Gosei Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L023-00
ICS C08L083-10
ICA C08F290-06
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07138415	A2	19950530	JP 1993-311144	19931117

KATHLEEN FULLER EIC 1700 308-4290

AB Title compns., useful for food packaging materials, contain polyolefins and silicone graft polymers. Thus, a mixed liq. contg. AK 31 (**methacryloyl**-terminated silicone macromonomer) 30, Me **methacrylate** 60, styrene 10, dodecyl mercaptan 1.5, and AIBN 2.5 parts was added at 80.degree. to an **aq.** mixt. contg. a Ca3(PO4)2 suspension liq. and Na dodecylnaphthalenesulfonate and polymn. was continued at 80.degree. for 7 h to obtain 93 parts of a solid silicone graft polymer, 3 parts of which was kneaded with 100 parts Hipol J 700 at 230.degree., T-die-molded at 230.degree., and bi-oriented at 150.degree. to prep. a 20-.mu.m film showing haze 1.1%, dynamic coeff. of **friction** 0.18, good adhesion to a printing ink, and lamination strength 300 kg/15 mm.

ST transparency polypropylene film; printability polypropylene film; lubricating ability polypropylene film; silicone graft polymer lubricant polypropylene; **methacryloyl** termination silicone macromonomer copolymer; methyl **methacrylate** graft siloxane lubricant; styrene graft copolymer lubricant polypropylene

IT **Lubricants**
(polymer **compns.** giving transparent films with good printability and lubricating ability)

IT Plastics, film
RL: MSC (Miscellaneous); PRP (Properties)
(polyolefin-silicone graft polymer blend with good transparency and printability and lubricating ability)

IT Transparent materials
(polyolefin-silicone graft polymer blends for films)

IT Siloxanes and Silicones, preparation
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)** ; TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(**acrylic**, graft, polymer compns. giving transparent films with good printability and lubricating ability)

IT Alkenes, uses
RL: POF (Polymer in formulation); USES (Uses)
(polymers, polymer compns. giving transparent films with good printability and lubricating ability)

IT 80-62-6DP, Methyl **methacrylate**, graft copolymer with siloxanes
100-42-5DP, Styrene, graft copolymers with siloxanes
RL: IMF (Industrial manufacture); **MOA (Modifier or additive use)** ; PREP (Preparation); USES (Uses)
(**lubricants**; polymer **compns.** giving transparent films with good printability and lubricating ability)

IT 9003-07-0, Hipol J 700
RL: POF (Polymer in formulation); USES (Uses)
(polymer compns. giving transparent films with good printability and lubricating ability)

L46 ANSWER 24 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:461008 HCAPLUS
DN 121:61008
TI Use of **solid lubricant** coatings in pneumatic cylinders
AU Nesterov, A. V.; Zaslavskiy, R. N.; Girsh, R. I.; Dyakin, S. I.
CS ElINP, Russia
SO Khim. Tekhnol. Topl. Masel (1994), (2), 15-16
CODEN: KTPMAG; ISSN: 0023-1169
DT Journal
LA Russian
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 38, 42, 55
AB **Solid lubricant** coatings (polymer forming **compns.** under **friction**) in the lubrication of the rubber V 14-steel 45 pair were studied as it relates to pneumatic cylinder. The EF-16 compn. was recommended for use on contact surfaces of pneumatic cylinders instead of chrome-plating.

ST **solid lubricant** coating pneumatic cylinder; polymer coating pneumatic cylinder lubrication; corrosion prevention polymer pneumatic cylinder lubrication

IT Rubber, nitrile, miscellaneous
RL: MSC (Miscellaneous)
(**friction** pair contg. steel and, polymer forming compns. in lubrication of)

IT Lubricants
(solid, polymer coatings, for pneumatic cylinders)

IT 37268-90-9, Steel 45, uses
RL: USES (Uses)
(**friction** pair contg. rubber V 14 and, polymer forming compns. in lubrication of)

IT **9003-18-3**
RL: USES (Uses)
(rubber, **friction** pair contg. steel and, polymer forming compns. in lubrication of)

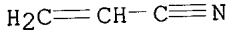
IT 114540-94-2, EF-16
RL: USES (Uses)
(**solid lubricant** coatings, for pneumatic cylinders)

IT **9003-18-3**
RL: USES (Uses)
(rubber, **friction** pair contg. steel and, polymer forming compns. in lubrication of)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

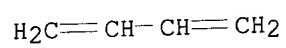
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 25 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:413695 HCAPLUS
DN 121:13695
TI **Friction** modifiers
IN Chiddick, Kelvin S.
PA Century Oils, Inc., Can.
SO U.S., 6 pp. Cont.-in-part of U.S. 5,173,204.
CODEN: USXXAM
DT Patent
LA English
IC ICM **C10M111-04**
ICS **C10M169-04**
NCL 252030000
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	US 5308516	A	19940503	US 1992-886615	19920520
	ZA 9004343	A	19920930	ZA 1990-4343	19900606
	US 5173204	A	19921222	US 1991-769578	19911002
PRAI	US 1989-364453		19890608		
	US 1990-492815		19900313		
	GB 1991-10979		19910521		
	US 1991-769578		19911002		

AB **Friction** modifiers are compn. which modify the coeff. of **friction** between surfaces to which the **friction** modifier is applied. They are similar in nature to lubricants but have different characteristics in certain respects. The invention relates particularly to solid **friction** modifiers which may be rigid or flexible. These **friction** modifiers comprise 20-80% by wt. of a polymer medium, 5-20% by wt. of a **solid lubricant** and 15-60% by wt. of a **friction** enhancer. The compn. produces a coeff. of **friction** which rises to above 0.20 at creepage level up to 2.5% between steel bodies in rolling-sliding contact lubricated using the compn.

ST **friction** modifier steel contact surface; polymer resin
friction modifier; **solid lubricant**
friction modifier steel

IT Epoxy resins, uses
Polyesters, uses
Urethane polymers, uses
RL: USES (Uses)
(**friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT Slate
Asbestos
Bentonite, uses
Kieselguhr
RL: USES (Uses)
(powd., **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT Urethane polymers, uses
RL: USES (Uses)
(**acrylic**, **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT Naphthenic acids, uses
RL: CAT (Catalyst use); USES (Uses)
(cobalt salts, catalyst, **friction** modifier compns. contg., for steel bodies rolling-sliding contact)

IT Coal
RL: USES (Uses)
(dust, **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT **Acrylic** polymers, uses
RL: USES (Uses)
(polyurethane-, **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT 121-69-7, N,N-Dimethylaniline, uses 1338-23-4, Methylethyl ketone peroxide
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **friction** modifier compns. contg., for steel bodies rolling-sliding contact)

IT 9002-88-4, Polyethylene 9003-07-0, Polypropylene
RL: USES (Uses)
(**friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT 471-34-1, Calcium carbonate, uses 546-93-0, Magnesium carbonate 557-05-1, Zinc stearate 598-63-0, Lead carbonate 637-12-7, Aluminum stearate 1314-13-2, Zinc oxide, uses 1327-33-9, Antimony oxide 1335-25-7, Lead oxide 1335-30-4, Aluminum silicate 1343-88-0, Magnesium silicate 7631-86-9, Silica, uses 7727-43-7, Barium sulfate

7778-18-9, Calcium sulfate 14808-60-7, Quartz, uses 16389-88-1, Dolomite, uses
RL: USES (Uses)
(powd., **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT 1317-33-5, Molybdenum disulfide, uses 7782-42-5, Graphite, uses
RL: USES (Uses)
(**solid lubricant**, **friction** modifier **compns**. contg., for steel bodies in rolling-sliding contact)

IT 12597-69-2P, Steel, preparation
RL: PREP (Preparation)
(wheel-rail systems, surfaces of, **friction** modifiers compns. for, for wear and noise redn.)

L46 ANSWER 26 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1994:303133 HCAPLUS
DN 120:303133
TI **Aqueous** lubrication and surface conditioning for formed metal surfaces
IN Awad, Sami B.; Kelly, Timm L.; Rochfort, Gary L.
PA Henkel Corp., USA
SO PCT Int. Appl., 33 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM **C10M137-04**
ICS **C10M105-18**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 46, 56

FAN.CNT 12

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9401517	A1	19940120	WO 1993-US6359	19930708
	W: AU, BR, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	ZA 9304846	A	19940203	ZA 1993-4846	19930706
	AU 9346654	A1	19940131	AU 1993-46654	19930708
	AU 675800	B2	19970220		
	CN 1085244	A	19940413	CN 1993-109893	19930708
	EP 649458	A1	19950426	EP 1993-916982	19930708
	R: AT, BE, DE, ES, FR, GB, GR, IT, SE				
	JP 07509261	T2	19951012	JP 1993-503464	19930708
	BR 9306696	A	19981208	BR 1993-6696	19930708
	EP 969078	A2	20000105	EP 1999-203252	19930708
	EP 969078	A3	20000223		
	R: AT, BE, DE, ES, FR, GB, GR, IT, SE				
PRAI	US 1992-910483	A	19920708		
	EP 1993-916982	A3	19930708		
	WO 1993-US6359	A	19930708		

AB A lubricant and surface conditioner for formed metal surfaces, particularly beverage containers, reduces the coeff. of static **friction** of the metal surfaces and enables drying the metal surfaces at a lower temp. The conditioner is formed by contacting the metal surface with an **aq**. compn. that includes a **water** -sol. org. material selected from a phosphate ester, alc., fatty acid including mono-, di-, tri-, and polyacids; fatty acid derivs. such as salts, hydroxy acids, amides, esters, ethers and derivs. thereof; and mixts. thereof.

ST lubricant surface conditioner metal can

IT Alcohols, compounds
RL: USES (Uses)
(C12-15, ethoxylated, **water** sol. **lubricant** and surface conditioner **compn**. contg., for lower temp. drying of washed metal cans)

IT Alcohols, compounds
RL: USES (Uses)
(C12-15, ethoxylated propoxylated, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans)

IT Fatty acids, polymers
RL: USES (Uses)
(C18-unsatd., dimers, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans, Empol 21)

IT Alcohols, compounds
RL: USES (Uses)
(C9-11, ethoxylated, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans)

IT Cans
(beverage, **aq. lubricant** and surface conditioner **compn.** for, with lower temp. drying)

IT Quaternary ammonium compounds, uses
RL: USES (Uses)
(bis(2-hydroxypropyl)methyltallow alkyl, chlorides, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans)

IT Quaternary ammonium compounds, compounds
RL: USES (Uses)
(coco alkylbis(hydroxyethyl)methyl, ethoxylated, chlorides, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans)

IT Amines, oxides
RL: USES (Uses)
(coco alkyldimethyl, N-oxides, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans)

IT Castor **oil**
RL: USES (Uses)
(hydrogenated, ethoxylated, **water** sol. **lubricant** and surface conditioner **compn.** contg., for lower temp. drying of washed metal cans)

IT Lubricants
(**water**-based, for metal cans, for lower temp. drying of washed metal cans)

IT 57-10-3, Emersol 143, uses 57-11-4, Emersol 153 NF, uses 93-82-3 97-78-9, Hamposyl L 110-25-8, Hamposyl O 112-80-1, Emersol 6313 NF, uses 120-40-1 123-99-9, Emery 1110, uses 124-07-2, Emery 657, uses 142-48-3, Hamposyl S 143-07-7, Emery 651, uses 334-48-5, Emery 659 544-63-8, Emery 655, uses 577-11-7, Triton GR-7M **7429-90-5**, Aluminum, uses 7439-89-6, Iron, uses 7439-98-7, Molybdenum, uses 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses **7440-31-5**, Tin, uses 7440-32-6, Titanium, uses 7440-33-7, Tungsten, uses 7440-45-1, Cerium, uses 7440-58-6, Hafnium, uses 7440-62-2, Vanadium, uses 7440-67-7, Zirconium, uses 7488-55-3, Tin sulfate (Sn(SO4)) 7545-23-5 7550-45-0, Titanium chloride (TiCl4), uses 7646-78-8, Tin chloride (SnCl4), uses 7705-08-0, Ferric chloride, uses 7783-50-8, Iron fluoride (FeF3) 7783-68-8, Niobium fluoride (NbF5) 7783-71-3, Tantalum fluoride (TaF5) 7783-72-4, Vanadium fluoride (VF5) 7790-87-6, Cerium iodide (CeI3) 9002-92-0 9002-93-1, Triton X 101 **9003-04-7**, Acusol 410N 9004-96-0, Emulphor 24 9016-45-9, Igepal CO-887 9084-06-4, Lomar D 10028-22-5, Ferric sulfate 10031-26-2, Iron bromide (FeBr3) 10043-01-3, Aluminum sulfate 10049-12-4, Vanadium fluoride (VF3) 10049-16-8, Vanadium fluoride (VF4) 10421-48-4, Iron nitrate (Fe(NO3)3) 11105-10-5, Triton QS 15 12021-47-5 12021-95-3 12626-49-2, Dowfax 2A1 12676-21-0, Armeen Z 12680-53-4, Triton DF-18 12688-28-7, Neodol 25-3S 12765-39-8, Igepon TC-42 13093-17-9, Cerium nitrate (Ce(NO3)4) 13106-76-8 13454-94-9

13473-90-0, Aluminum nitrate (Al(NO3)3) 15855-70-6 16919-31-6
17439-11-1, Hydrogen titanium fluoride (H2TiF6) 26885-07-4, Igepon TK-32
27252-75-1 27774-13-6, Vanadium oxide sulfate (VOSO4) 28724-32-5,
Ethoquad 18/5 28880-55-9 30399-84-9, Emersol 871 37211-53-3, Triton
CF-21 37281-47-3, Triton DF-12 37281-48-4, Triton H-66 39464-66-9
50925-57-0, Aromox C/12 51811-79-1, Gafac PE510 52019-36-0, Gafac RA
600 52623-95-7, Triton QS-44 52794-79-3 56002-14-3, Ethox M15
56833-50-2, Neodol 25-3A 58229-81-5, Triton DF-16 58967-79-6, Triton
H-55 60371-17-7, Antarox LF-330 60828-78-6, Tergitol TMN-6
70431-21-9, Surfonic LF-17 77323-37-6, Gafac BH 650 88651-29-0,
Hamposyl C 92529-60-7, Triton X 120 106392-12-5, Pluronic 150R1
110617-70-4, Tetronic 701 121182-00-1, Ethfac 136 125121-47-3, Avanel
S 70 128664-37-9, APG 300 138726-29-1, Ethox 2684 153966-45-1,
Dyasulf 9268A 153966-53-1, Gafac BL 750 153966-56-4, Dyasulf C 70
153966-83-7, Neodol 25-5-3 153966-96-2, Ethox PP 16 153967-14-7,
Trycol 6720
RL: USES (Uses)
(**water** sol. **lubricant** and surface conditioner
compn. contg., for lower temp. drying of washed metal cans)

IT **7429-90-5**, Aluminum, uses **7440-31-5**, Tin, uses
9003-04-7, Acusol 410N
RL: USES (Uses)
(**water** sol. **lubricant** and surface conditioner
compn. contg., for lower temp. drying of washed metal cans)

RN 7429-90-5 HCAPLUS
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

Al

RN 7440-31-5 HCAPLUS
CN Tin (8CI, 9CI) (CA INDEX NAME)

Sn

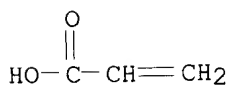
RN 9003-04-7 HCAPLUS
CN 2-Propenoic acid, homopolymer, sodium salt (9CI) (CA INDEX NAME)

CM 1

CRN 9003-01-4
CMF (C3 H4 O2)x
CCI PMS

CM 2

CRN 79-10-7
CMF C3 H4 O2



L46 ANSWER 27 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:519280 HCAPLUS
DN 119:119280
TI Rubber compositions for sliding parts
IN Yamagishi, Takahiro

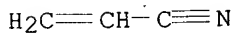
PA Koyo Seiko Co, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08L021-00
ICS C08K003-36; C08K005-54; C08L083-04; F16J015-10
CC 39-9 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05093095	A2	19930416	JP 1991-88759	19910419

PI
AB The title **compns.**, useful for **oil** seals, etc., contain rubber base materials, powd. or granulated **lubricants** (comprising liq. **lubricants** and inorg. carriers contg. and releasing the liq. **lubricants** by kneading), and couplers. Thus, nitrile rubber 100, ZnO 20, stearic acid 1.5, an **antioxidant** 2, FEF carbon and talc 80, S 0.5, a plasticizer 5, dimethylsilicone **oil**-contg. SiO2 5, .gamma.-mercaptopropyltrimethoxysilane 0.5, and vulcanization accelerators 5 parts were roll kneaded to obtain a compn. showing tensile strength 125 kg/cm2, elongation 295%, and **friction** coeff. 1.43.
ST sliding material rubber **compn lubricant**; coupling agent rubber sliding material
IT Rubber, nitrile, uses
RL: USES (Uses)
(sliding materials, contg. powd. or granular lubricants and coupling agents)
IT Lubricants
(supported on inorg. compds., powd. or granular, for nitrile rubber sliding materials)
IT Siloxanes and Silicones, uses
RL: USES (Uses)
(di-Me, lubricants, powd. or granular silica-supported F 250, for nitrile rubber sliding materials)
IT 7631-86-9, Silica, uses
RL: USES (Uses)
(powd. or granular, supported with liq. dimethylsilicone **oils**, lubricants for nitrile rubber sliding materials)
IT **9003-18-3**
RL: USES (Uses)
(rubber, sliding materials, contg. powd. or granular lubricants and coupling agents)
IT **9003-18-3**
RL: USES (Uses)
(rubber, sliding materials, contg. powd. or granular lubricants and coupling agents)
RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6

L46 ANSWER 28 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1993:216299 HCAPLUS
DN 118:216299
TI **Friction** modifiers
IN Chiddick, Kelvin S.
PA Century Oils (Canada) Inc., Can.
SO Can. Pat. Appl., 19 pp.
CODEN: CPXXEB
DT Patent
LA English
IC ICM **C10M107-00**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CA 2069035	AA	19921122	CA 1992-2069035	19920520
PRAI GB 1991-10979		19910521		

AB **Friction** modifiers are compns. which modify the coeff. of **friction** between surfaces to which the **friction** modifier is applied. They are similar to lubricants but have different characteristics in certain respects. The solid **friction** modifiers which may be rigid or flexible comprise a polymer medium 20-80, a **solid lubricant** 5-20, and a **friction** enhancer 15-60%. The compn. produces a coeff. of **friction** which rises to >0.20 at creepage levels <2.5% between steel bodies in rolling-sliding contact lubricated using the compn. A **friction** modifier **compn.** comprises (a) polyester resin medium .apprx.60, (b) MoS2 **solid lubricant** .apprx.10, a powd. talc .apprx.30, (d) promoters to improve and speed up the cure rate and gel time .apprx.0.2, and (e) polymn. initiators .apprx.1.4%.

ST **friction** modifier steel contact surface; polymer resin **friction** modifier; **solid lubricant** **friction** modifier steel

IT Epoxy resins, uses
Polyesters, uses
Urethane polymers, uses
RL: USES (Uses)
(**friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT Bentonite, uses
Kaolin, uses
Kieselguhr
RL: USES (Uses)
(powd., **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT Urethane polymers, uses
RL: USES (Uses)
(**acrylic, friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT Naphthenic acids, compounds
RL: CAT (Catalyst use); USES (Uses)
(cobalt salts, catalyst, **friction** modifier compns. contg., for steel bodies rolling-sliding contact)

IT Polyolefin fibers
RL: USES (Uses)
(ethylene, powd., **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)

IT **Acrylic** polymers, uses
RL: USES (Uses)
(polyurethane-, **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)
IT 121-69-7, N,N-Dimethylaniline, uses 1338-23-4, Methylethyl ketone peroxide
RL: CAT (Catalyst use); USES (Uses)
(catalyst, **friction** modifier compns. contg., for steel bodies rolling-sliding contact)
IT 7631-86-9, Silica, uses 9002-88-4, Polyethylene 9003-07-0, Polypropylene
RL: USES (Uses)
(**friction** modifier compns. contg., for steel bodies in rolling-sliding contact)
IT 471-34-1, Calcium carbonate, uses 546-93-0 557-05-1, Zinc stearate 598-63-0, Lead carbonate 637-12-7, Aluminum stearate 1314-13-2, Zinc oxide, uses 1319-46-6, Basic lead carbonate 1327-33-9, Antimony oxide 1335-25-7, Lead oxide 1335-30-4, Aluminum silicate 1343-88-0, Magnesium silicate 7727-43-7, Blanc Fixe 7778-18-9, Calcium sulfate 13462-86-7, Barite 14807-96-6, Talc, uses 14808-60-7, Quartz, uses 16389-88-1, Dolomite, uses
RL: USES (Uses)
(powd., **friction** modifier compns. contg., for steel bodies in rolling-sliding contact)
IT 1317-33-5, Molybdenum disulfide, uses 7782-42-5, Graphite, uses
RL: USES (Uses)
(**solid lubricant, friction** modifier **compns.** contg., for steel bodies in rolling-sliding contact)
IT 12597-69-2P, Steel, preparation
RL: PREP (Preparation)
(wheel-rail systems, surfaces of, **friction** modifiers compns. for, for wear and noise redn.)

L46 ANSWER 29 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:160243 HCAPLUS
DN 112:160243
TI **Lubricant** diene rubber **compositions** containing polyurethanes
IN Satoji, Fumitada
PA NTN-Rulon Industries Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C08G018-69
ICS C08L009-00
CC 39-9 (Synthetic Elastomers and Natural Rubber)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01197518	A2	19890809	JP 1988-23424	19880202
	JP 2636867	B2	19970730		
	US 4978463	A	19901218	US 1989-304290	19890131
	US 4976880	A	19901211	US 1990-520322	19900507
	US 34830	E	19950117	US 1994-199898	19940222
PRAI	JP 1988-23424		19880202		
	US 1989-304290		19890131		

AB The title compns., with good retention of sealing properties, **oil** and wear resistance, elasticity, mech. strength, etc., contain (a) diene rubbers, (b) OH-contg. liq. diene polymers, (c) polyisocyanates, and (d) siloxanes or F-contg. polymers contg. amine, CO2H, OH, and/or SH groups. Thus, JSR 1502 100, Poly bd R-45HT (I) 12.5, TDI 0.9, Fomblin Z DOL-2000 [II, OH-contg. poly(fluoro ether)] 10, dibutyltin laurate 0.1, C black 30, CaCO3 100, S 1.8, vulcanization aids 6, vulcanization accelerators 1.8,

DOP 30, and an **antioxidant** 1.5 parts were mixed, press vulcanized at 170.degree. for 5 min, and molded to give a plate showing tensile breaking strength 85 kg/cm2, tensile breaking elongation 600%, rigidity (JIS A) 50, and **friction** coeff. 0.72, vs. 90, 620, 50, and 1.48, resp., for a plate without I, II, and TDI.

ST lubricant diene rubber blend polyurethane; SBR rubber blend polyurethane lubricant; polyfluoroether polyurethane diene rubber lubricant

IT Rubber, butadiene-styrene, uses and miscellaneous
RL: USES (Uses)
(blends of polyurethanes and siloxanes or fluoropolymers with JSR 1502, lubricant)

IT Rubber, neoprene, uses and miscellaneous
RL: USES (Uses)
(blends with polyurethanes and siloxanes or fluoropolymers, lubricant)

IT Rubber, nitrile, uses and miscellaneous
RL: USES (Uses)
(blends with polyurethanes, JSR 237H, lubricant, with retention of mech. properties)

IT Fluoropolymers
Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(diene rubbers contg., lubricant)

IT Lubricants
(diene rubbers contg., siloxanes or fluoropolymers as, with retention of mech. properties)

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(polyurethane-, diene rubbers contg., lubricant)

IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(siloxane-, diene rubbers contg., lubricant)

IT 678-39-7 34143-74-3 125998-65-4 125998-66-5 125998-67-6
RL: USES (Uses)
(diene rubbers contg., lubricant, with retention of mech. properties)

IT 9003-55-8
RL: USES (Uses)
(rubber, blends of polyurethanes and siloxanes or fluoropolymers with JSR 1502, lubricant)

IT 9010-98-4
RL: USES (Uses)
(rubber, blends with polyurethanes and siloxanes or fluoropolymers, lubricant)

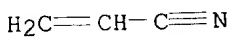
IT **9003-18-3**
RL: USES (Uses)
(rubber, blends with polyurethanes, JSR 237H, lubricant, with retention of mech. properties)

IT **9003-18-3**
RL: USES (Uses)
(rubber, blends with polyurethanes, JSR 237H, lubricant, with retention of mech. properties)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

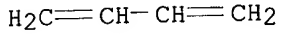
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 30 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1990:159728 HCAPLUS
DN 112:159728
TI Extrusion formulation pacakge for thermally sensitive resins, polymeric composition containing the package and fabricated articles therefrom
IN Hall, Mark J.; Jenkins, Steven R.; Betso, Stephen R.; Kirkpatrick, Donald E.; Stevenson, James A.; Ross, Robert P.
PA Dow Chemical Co., USA
SO PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C08K005-02
ICS C08L027-08; B29C045-02
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8908680	A1	19890921	WO 1989-US887	19890304
	W: AU, JP, KR				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8932869	A1	19891005	AU 1989-32869	19890304
	AU 631787	B2	19921210		
	EP 403542	A1	19901227	EP 1989-903646	19890304
	EP 403542	B1	19961016		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 03504023	T2	19910905	JP 1989-503347	19890304
	JP 2801323	B2	19980921		
	CA 1337833	A1	19951226	CA 1989-592863	19890306
PRAI	US 1988-164741		19880307		
	WO 1989-US887		19890304		

AB The title **compn.** comprises a vinylidene chloride (I) copolymer (59.8-99.7 wt.% I) blended with 0.3-40.2 wt.% extrusion formulation package; the package comprises 0.05-5 wt.% alkali metal or alk. earth metal salt of a weak acid and the remainder of the package comprises .gtoreq.2 components selected from (a) ethylene polymer contg. a minor amt. of comonomer, capable of lowering the **friction** coeff. of I copolymer, (b) plasticizer, and (c) .gtoreq.1 external **lubricant** selected from (1) oxidized polyolefins (other than polyethylene) and (2) polyolefin waxes or **oils**. Thus, a homogeneous mixt. of Mg(OH)2 0.65, HD 65053N (high-d. polyethylene) 1.5, Vikoflex 7177 (epoxidized soybean **oil** 1, oxidized 0.3, polyethylene wax 0.7 wt.%, and the balance I-Me **acrylate** copolymer was prepd. by dry blending; extruding through a twin-screw extruder, and/or pelletizing gave materials with good color, low carbon contamination (by visual detn.) and good melt adhesion property (detd. by 2-roll mill test procedure).

ST vinylidene chloride copolymer compn extrusion; polyethylene vinylidene chloride copolymer blend extrusion; discoloration prevention extrusion vinylidene chloride copolymer; heat sensitive polymer extrusion

IT Plasticizers
(epoxidized **oils** and sebacate esters, for extrudable vinylidene chloride copolymer compns.)

IT Paraffin **oils**
Paraffin waxes and Hydrocarbon waxes, uses and miscellaneous

RL: USES (Uses)
(external **lubricants**, for extrudable vinylidene chloride copolymer **compns**.)

IT Discoloration prevention
(in extrusion of vinylidene chloride copolymer compns., extrusion formulation package for)

IT Extrusion of plastics and rubbers
(of vinylidene chloride copolymer-polyethylene blends, discoloration prevention in)

IT Calendering
(of vinylidene chloride copolymer-polyethylene compns., discoloration prevention in)

IT Polymer degradation
(prevention of, in extrusion of vinylidene chloride copolymer compns.)

IT Dehydrochlorination
(prevention of, in extrusion of vinylidene chloride copolymer compns., extrusion formulation package for)

IT Heat-sensitive materials
(vinylidene chloride copolymer compns., extrusion formulation package for)

IT Containers
(vinylidene chloride copolymer-ethylene polymer compns. for, extrudable)

IT Molding of plastics and rubbers
(blow, of vinylidene chloride copolymer-polyethylene compns., discoloration prevention in)

IT Extrusion of plastics and rubbers
(co-, of vinylidene chloride copolymer-polyethylene blends, discoloration prevention in)

IT Soybean **oil**
RL: **MOA (Modifier or additive use)**; USES (Uses)
(epoxidized, plasticizers, Vikoflex 7177, for vinylidene chloride copolymer-polyethylene extrudable compns.)

IT Linseed **oil**
RL: **MOA (Modifier or additive use)**; USES (Uses)
(epoxidized, plasticizers, for extrudable vinylidene chloride copolymer compns.)

IT **Lubricants**
(external, oxidized polyolefins and polyolefins, for extrudable vinylidene chloride copolymer **compns**.)

IT Molding of plastics and rubbers
(injection, of vinylidene chloride copolymer-polyethylene compns., discoloration prevention in)

IT Adhesion
(melt, prevention of, in extrusion of vinylidene chloride copolymer compns., extrusion formulation package for)

IT Alkenes, polymers
RL: USES (Uses)
(polymers, oxidized, **lubricants**, for extrudable vinylidene chloride copolymer **compns**.)

IT 7647-01-0
RL: USES (Uses)
(dehydrochlorination, prevention of, in extrusion of vinylidene chloride copolymer compns., extrusion formulation package for)

IT 50813-15-5, Allied 629A
RL: USES (Uses)
(extrusion aids, for vinylidene chloride copolymer compn.)

IT 9002-88-4D, Polyethylene, oxidized
RL: USES (Uses)
(**lubricants**, for extrudable vinylidene chloride copolymer **compns**.)

IT 109-43-3
RL: **MOA (Modifier or additive use)**; USES (Uses)
(plasticizers, for extrudable vinylidene chloride copolymer compns.)

IT 9011-06-7, Vinyl chloride-vinylidene chloride copolymer **25038-72-6**, Methyl **acrylate**-vinylidene chloride copolymer **25101-06-8**, Ethyl **acrylate**-vinylidene chloride copolymer
RL: USES (Uses)
(polyethylene blends, extrudable without discoloration)

IT 74-85-1D, Ethylene, copolymers 9002-88-4, Polyethylene
RL: USES (Uses)
(vinylidene chloride copolymer blends, extrudable)

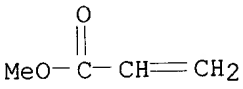
IT 1309-42-8, Magnesium hydroxide 1309-48-4, Magnesium oxide, uses and miscellaneous 7722-88-5, Tetrasodium pyrophosphate 7758-87-4
RL: USES (Uses)
(vinylidene chloride copolymer compns. contg., extrudable)

IT **25038-72-6**, Methyl **acrylate**-vinylidene chloride copolymer **25101-06-8**, Ethyl **acrylate**-vinylidene chloride copolymer
RL: USES (Uses)
(polyethylene blends, extrudable without discoloration)

RN 25038-72-6 HCAPLUS
CN 2-Propenoic acid, methyl ester, polymer with 1,1-dichloroethene (9CI) (CA INDEX NAME)

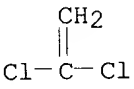
CM 1

CRN 96-33-3
CMF C4 H6 O2



CM 2

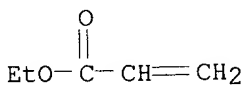
CRN 75-35-4
CMF C2 H2 Cl2



RN 25101-06-8 HCAPLUS
CN 2-Propenoic acid, ethyl ester, polymer with 1,1-dichloroethene (9CI) (CA INDEX NAME)

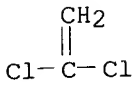
CM 1

CRN 140-88-5
CMF C5 H8 O2



CM 2

CRN 75-35-4
CMF C2 H2 Cl2



L46 ANSWER 31 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:635155 HCAPLUS
DN 111:235155
TI Lubricating coating compositions for metals
IN Sato, Toshiaki
PA Toyo Ink Mfg. Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09D005-00
ICS C09D003-393; C09D005-00
CC 42-5 (Coatings, Inks, and Related Products)
Section cross-reference(s): 55, 56
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01081865	A2	19890328	JP 1987-239787	19870924

PI JP 01081865 A2 19890328 JP 1987-239787 19870924

AB Title **compns.** with good adhesion contain reaction products of carboxy- or OH-contg. natural or polyolefin waxes and carboxy- or OH-reactive resins as migration-resistant **lubricants.** An 80:20 mixt. of Olester Q 171 (**acrylic** resin; OH no. 45; 50% solids) and Hiwax 2203 A (acid no. 30) was heated 7 h at 140.degree. and dild. with xylene to give a dispersion (20% solids) which was mixed (1 part) with Almatex P 646 80, Cymel 350 20, and p-MeC6H4SO3H 1 part. The mixt. was coated on Al and baked 10 min at 170.degree. to give a coating with kinetic **friction** coeff. 0.11 initially and 0.12 after 30 min in boiling **water** and no change during wiping, vs. 0.10, 0.25, and removal of wax particles, resp., with Neptune 1 (polyethylene wax) as the lubricant.

ST polyolefin deriv lubricant coating; hydroxy wax deriv lubricant coating; carboxy wax deriv lubricant coating; **acrylic** wax lubricant coating; migration resistance lubricant coating; metal coating lubricant wax

IT Coating materials
(lubricants in, polymer-wax reaction products as, for metals)

IT Lubricants
(polymer-wax reaction products, in coatings for metals)

IT Carnauba wax
Montan wax
Waxes and Waxy substances
RL: USES (Uses)
(reaction products with polymers, as lubricants in coatings)

IT **7429-90-5**, Aluminum, uses and miscellaneous
RL: USES (Uses)
(coatings for, waxy lubricants for use in)

IT 113054-98-1 123924-84-5
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, contg. waxy lubricants, for metals)

IT 9002-88-4D, Polyethylene, oxidized, reaction products with polymers 9003-08-1D, reaction products with waxes **9010-77-9D**, **Acrylic** acid-ethylene copolymer, reaction products with polymers **25053-53-6D**, Ethylene-**methacrylic** acid copolymer, reaction products with polymers 25068-38-6D, reaction products with waxes 70777-48-9D, Hiwax 2203A, reaction products with polymers 123759-57-9D, Olester Q 171, reaction products with waxes 123759-58-0D,

Olester Q 173, reaction products with waxes
RL: USES (Uses)
(lubricants, migration-resistant, in coatings for metals)

IT **7429-90-5**, Aluminum, uses and miscellaneous
RL: USES (Uses)
(coatings for, waxy lubricants for use in)

RN 7429-90-5 HCAPLUS
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

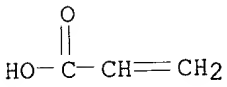
Al

IT **9010-77-9D**, **Acrylic** acid-ethylene copolymer, reaction products with polymers **25053-53-6D**, Ethylene-**methacrylic** acid copolymer, reaction products with polymers
RL: USES (Uses)
(lubricants, migration-resistant, in coatings for metals)

RN 9010-77-9 HCAPLUS
CN 2-Propenoic acid, polymer with ethene (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7
CMF C3 H4 O2



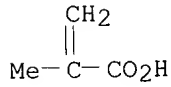
CM 2

CRN 74-85-1
CMF C2 H4

RN 25053-53-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethene (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2



CM 2

CRN 74-85-1
CMF C2 H4

$H_2C{=}CH_2$

L46 ANSWER 32 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:500170 HCAPLUS
DN 111:100170
TI Lubricant and method for prevention of noise, produced by **friction** between metal surfaces
IN Lanini, Marco; Scheiwiller, Elmar; Periard, Jacques
PA Lonza A.-G., Switz.
SO Patentschrift (Switz.), 4 pp.
CODEN: SWXXAS
DT Patent
LA German
IC ICM **C10M111-04**
ICS E01B019-00; B61K003-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CH 669207	A	19890228	CH 1986-3029	19860729

PI
AB **Lubricant compn.** in solid plastic form for prevention of noise generated by **friction** of metal surfaces, esp. produced by rolling wheels of rail cars, contains a thermoplastic polymer, **lubricant** for plastics and **solid lubricant.** An example of the compn. contains graphite 70, Epolene C10 (polyethylene) 10, KW resin 20 B1/85 (hydrocarbon resin) 10, and PiB3 (polyisobutylene) 10%.
ST lubricant noise prevention thermoplastic polymer; polyethylene hydrocarbon resin noise lubricant; polyisobutylene graphite noise prevention lubricant
IT Lubricants
(contg. thermoplastic polymers, for prevention of noise generation by **friction** of metal surfaces)
IT Clays, uses and miscellaneous
Coumarone-indene resins
Fatty acids, uses and miscellaneous
Siloxanes and Silicones, uses and miscellaneous
Soaps
Waxes and Waxy substances
RL: USES (Uses)
(lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)
IT **Acrylic** fibers, uses and miscellaneous
Glass fibers, uses and miscellaneous
Polyamide fibers, uses and miscellaneous
Polyester fibers, uses and miscellaneous
Polypropene fibers, uses and miscellaneous
Titanates
RL: USES (Uses)
(surface modifying agent, lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)
IT Alcohols, uses and miscellaneous
Amides, uses and miscellaneous
RL: USES (Uses)
(fatty, lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)
IT Hydrocarbons, uses and miscellaneous
RL: USES (Uses)
(fluoro, surface modifying agent, lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)
IT Rubber, synthetic
RL: USES (Uses)

(isoprene-styrene, block, lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)

IT Wheels
(railway car, noise generation by, prevention of, lubricants for)

IT Hydrocarbons, polymers
RL: USES (Uses)
(resins, lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)

IT 557-05-1, Zinc stearate 37220-82-9, Olein
RL: USES (Uses)
(lubricants contg., for prevention of noise between metal surfaces)

IT 7782-42-5, Graphite, uses and miscellaneous 9002-88-4, Epolene C10 9003-27-4, Polyisobutylene
RL: USES (Uses)
(lubricants contg., for prevention of noise generation between metal surfaces)

IT 557-04-0, Magnesium stearate 1241-94-7, Santicizer 141 9002-88-4, Polyethylene 9014-93-1, Antarox DM970 24938-04-3, Vitel PE200 25038-32-8, Isoprene-styrene copolymer
RL: USES (Uses)
(lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)

IT 7789-75-5P, Calcium fluoride, uses and miscellaneous 7803-62-5P, Silane, uses and miscellaneous 9002-84-0P
RL: PREP (Preparation); USES (Uses)
(surface modifying agent, lubricants contg., for prevention of noise generation, by **friction** of metal surfaces)

L46 ANSWER 33 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1989:460838 HCAPLUS
DN 111:60838
TI **Solid lubricant composition**
IN Jamison, Warren E.
PA Durafilm Materials Corp., USA
SO Brit. UK Pat. Appl., 28 pp.
CODEN: BAXXDU
DT Patent
LA English
IC ICM **C10M125-24**
ICS B05D005-08; **C10M137-06; C10M137-10**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2207146	A1	19890125	GB 1987-19003	19870811
	GB 2207146	B2	19910724		
	AU 8777108	A1	19890112	AU 1987-77108	19870817
	AU 599690	B2	19900726		
	CA 1296316	A1	19920225	CA 1987-544657	19870817
	JP 01031893	A2	19890202	JP 1987-226763	19870911
PRAI	US 1987-72097		19870710		

AB A **solid lubricant** useful for lubricating the flanges of railcar wheels and rails and for other similar applications contains a polymeric carrier 16-25, a lubricating **oil** 49-63, solid lubricating powder 10-16, and a surface active agent comprising a metallic dithiophosphate and an org. Mo compd. 6-16 wt.%. The **solid lubricant** is mixed and introduced into a screw type extruder wherein it is heated and extruded through a die into a **water** bath, forming an elastic rod or strand. The lubricant is applied to a surface to be lubricated by rubbing it onto the surface in a thin film. The surface active agent enhances the attachment and embedment of the dry lubricating powder into the surface. The lubricant serves to reduce both wear and **friction** between contacting surfaces. A preferred solid lubricating compn. contains fine Cu powder 5, fine Pb powder 5,

mineral **oil** (motor **oil**, SAE 30) 49, ultrahigh mol. wt. polyethylene powder 25, and liq. surfactant (additive ULC) 16 wt.%.

ST **solid lubricant** railcar wheel flange; copper lead powder **solid lubricant**; polyethylene **solid lubricant** surfactant wheel

IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(carriers, **solid lubricants** contg., for railcar wheel flanges)

IT Lubricating **oils**
(for railcar wheel flanges)

IT Ionomers
RL: USES (Uses)
(metallic for railcar wheel flanges)

IT Naphthenic acids, compounds
RL: USES (Uses)
(lead salts, surfactants contg., for railcar wheel flanges)

IT Lubricants
(solid, polymeric carrier-lubricating **oil**-solid powder-surfactant, for railcar wheel flanges)

IT **Oils**, glyceridic
RL: USES (Uses)
(sperm, surfactants contg., for railcar wheel flanges)

IT Fats, compounds
RL: USES (Uses)
(sulfurized, surfactants contg., for railcar wheel flanges)

IT **Oils**, glyceridic
RL: USES (Uses)
(vegetable, for railcar wheel flanges)

IT 74-85-1D, Ethene, polymers 9002-88-4, Polyethylene 9003-07-0, Polypropylene
RL: USES (Uses)
(carriers, **solid lubricants** contg., for railcar wheel flanges)

IT **9010-77-9**, **Acrylic** acid-ethylene copolymer 24937-78-8, Ethylene-vinyl acetate copolymer **26445-96-5 28516-43-0**, Surlyn 9970 100932-50-1, Molyvan L 121382-19-2, Spenkel M 21-40X 121844-47-1 121890-85-5
RL: USES (Uses)
(for railcar wheel flanges)

IT **1317-33-5**, Molybdenum sulfide, uses and miscellaneous **7782-42-5**, **7439-92-1**, Lead, uses and miscellaneous 11109-57-2 11143-56-9 11146-05-7 12713-30-3 12735-96-5 37230-21-0
RL: USES (Uses)
(powder, for railcar wheel flanges)

IT **7440-50-8**, Copper, uses and miscellaneous
RL: USES (Uses)
(powder, **solid lubricants** contg., for railcar wheel flanges)

IT 7439-98-7D, Molybdenum, compds. 15834-33-0D, Phosphorodithioic acid, zinc salts
RL: USES (Uses)
(surfactants contg., for railcar wheel flanges)

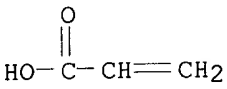
IT 121382-03-4, Heveanol H 1501
RL: USES (Uses)
(tackifiers, for railcar wheel flanges)

IT **9010-77-9**, **Acrylic** acid-ethylene copolymer **26445-96-5 28516-43-0**, Surlyn 9970
RL: USES (Uses)
(for railcar wheel flanges)

RN 9010-77-9 HCAPLUS
CN 2-Propenoic acid, polymer with ethene (9CI) (CA INDEX NAME)

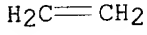
CM 1

CRN 79-10-7
CMF C3 H4 O2



CM 2

CRN 74-85-1
CMF C2 H4



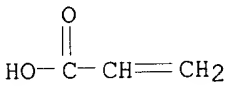
RN 26445-96-5 HCAPLUS
CN 2-Propenoic acid, polymer with ethene, calcium salt (9CI) (CA INDEX NAME)

CM 1

CRN 9010-77-9
CMF (C3 H4 O2 . C2 H4)x
CCI PMS

CM 2

CRN 79-10-7
CMF C3 H4 O2



CM 3

CRN 74-85-1
CMF C2 H4

RN 28516-43-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, polymer with ethene, zinc salt (9CI) (CA INDEX NAME)

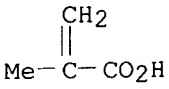
CM 1

CRN 25053-53-6
CMF (C4 H6 O2 . C2 H4)x
CCI PMS

CM 2

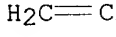
CRN 79-41-4

CMF C4 H6 O2

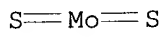


CM 3

CRN 74-85-1
CMF C2 H4



IT **1317-33-5**, Molybdenum sulfide, uses and miscellaneous
7439-92-1, Lead, uses and miscellaneous **7782-42-5**,
Graphite, uses and miscellaneous
RL: USES (Uses)
(powder, for railcar wheel flanges)
RN 1317-33-5 HCAPLUS
CN Molybdenum sulfide (MoS2) (8CI, 9CI) (CA INDEX NAME)



RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

IT **7440-50-8**, Copper, uses and miscellaneous
RL: USES (Uses)
(powder, **solid lubricants** contg., for railcar wheel flanges)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

L46 ANSWER 34 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:513265 HCAPLUS
DN 109:113265
TI **Solid lubricant** coating **compositions**
IN Kato, Akihiro; Ito, Haruki; Maeda, Kenzo; Kawakubo, Fumio
PA Nippon Oils and Fats Co., Ltd., Japan; Sumiko Junkatsuzai Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF

DT Patent
LA Japanese
IC ICM C09D005-00
ICS C09D005-00
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 42
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 63086764	A2	19880418	JP 1986-232710	19860930

AB Title **compns**. useful for metals contain 20-95% solid thermosetting resins and 5-80% **solid lubricants**. Thus, Almatex PD 7210 (an **acrylic** resin, m.p. 90.degree.) 79.2, Fluon L 169 (m.p. 320.degree.) 8.0, Raven 420 2.0, dodecanedioic acid (m.p. 130.degree.) 10.4, and Epikote 1002 (m.p. 83.degree.) 2.4 wt. parts were dry blended, melt kneaded, and pulverized to give a powd. coating compn. A Zn3(PO4)2-treated steel plate was spray coated with the **compn**. and baked at 190.degree. for 20 min to give a test piece with good appearance, a cross-cut adhesion of 100/100, an impact strength (JIS K 5400) of 50 cm, a max. coating thickness of 930 .mu.m, and an av. **friction** coeff. of 0.104, vs. 100/100, 50, 500, and 0.306, resp., for the coating prepd. from a similar **compn**. contg. 3.0% **solid lubricant**.
ST **solid lubricant** coating steel; thermosetting resin coating steel lubricating
IT Mica-group minerals, uses and miscellaneous
Soaps
RL: USES (Uses)
(**solid lubricants**, thermosetting resin coatings contg., for steel)
IT Lubricants
(solid, coatings of, on steel)
IT 27754-24-1, Dicyandiamide-Epikote 1004 copolymer 116087-26-4, B 1065-Epikote 1004-ER 6610 copolymer 116188-84-2, Almatex PD 7210-dodecanedioic acid-Epikote 1002 copolymer
RL: USES (Uses)
(coatings, contg. **solid lubricants**, for steel)
IT 12597-69-2
RL: USES (Uses)
(lubricants, solid, coatings of, on steel)
IT 7782-42-5, Graphite, uses and miscellaneous
RL: USES (Uses)
(**solid lubricants**, CPF 6, thermosetting resin coatings contg., for steel)
IT 1317-33-5, Molybdenum disulfide, uses and miscellaneous
RL: USES (Uses)
(**solid lubricants**, Moly Powder PA, thermosetting resin coatings contg., for steel)
IT 637-12-7 9002-84-0, Fluon L 169 10043-11-5, Boron nitride, uses and miscellaneous 11113-63-6, Fluorographite 12138-09-9, Tungsten disulfide
RL: USES (Uses)
(**solid lubricants**, thermosetting resin coatings contg., for steel)

L46 ANSWER 35 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:495848 HCAPLUS
DN 109:95848
TI **Lubricant compositions** containing borated overbased organic acid salt and **friction** modifier.
IN Schwind, James Jay; Tipton, Craig Daniel
PA Lubrizol Corp., USA
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2

DT Patent
LA English
IC ICM **C10M141-12**
ICS **C10M163-00; C10M169-04**
ICI C10M141-12, C10M101-04, C10M107-02, C10M129-76, C10M133-04, C10M133-08, C10M133-18, C10M135-02, C10M135-04, C10M137-10, C10M137-12, C10M139-00, C10M155-00, C10M159-20, C10M159-22, C10M159-24; C10M169-04
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8804684	A1	19880630	WO 1987-US3340	19871215
	W: AU, BR, DK, FI, JP, NO				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 4792410	A	19881220	US 1986-946407	19861222
	IN 170459	A	19920328	IN 1987-DE816	19870917
	AU 8810886	A1	19880715	AU 1988-10886	19871215
	AU 600791	B2	19900823		
	EP 294458	A1	19881214	EP 1988-900646	19871215
	EP 294458	B1	19910821		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 01501801	T2	19890622	JP 1988-500802	19871215
	JP 2532638	B2	19960911		
	BR 8707586	A	19891003	BR 1987-7586	19871215
	AT 66487	E	19910915	AT 1988-900646	19871215
	IL 84828	A1	19911121	IL 1987-84828	19871215
	JP 2532638	B2	19960911	JP 1987-500802	19871215
	ZA 8709517	A	19880831	ZA 1987-9517	19871218
	ES 2008392	A6	19890716	ES 1987-3646	19871218
	CA 1295318	A1	19920204	CA 1987-554828	19871218
	NO 8803652	A	19880816	NO 1988-3652	19880816
	NO 174429	B	19940124		
	NO 174429	C	19940504		
	DK 8804627	A	19880818	DK 1988-4627	19880818
	FI 8803860	A	19880819	FI 1988-3860	19880819
PRAI	US 1986-946407		19861222		
	EP 1988-900646		19871215		
	WO 1987-US3340		19871215		

OS MARPAT 109:95848
AB A lubricant mixt. suitable for a manual transmission fluid comprises (a) a borated overbased alkali metal or alk. earth metal salt selected from sulfonates, phenates, oxylates, carboxylates, and their mixts., (b) a **friction** modifier selected from fatty phosphites, fatty acid amides, borated fatty epoxides, fatty amines, glycerol esters and their borated derivs., borated alkoxylated fatty amines, sulfurized olefins, and their mixts., and (c) an **oil** of lubricating viscosity. The fluid is esp. useful in reducing double detent and clashing during manual transmission shifting. Thus, a manual transmission fluid was prepd. by combining mineral **oil** 56.5, polyisobutylene (av. mol. wt. .apprx.1700) 20, C12(av.) alkylated benzene 15, maleic anhydride-styrene copolymer esterified as a pour point depressant 1, Zn dithiophosphate 2.38, dioleylphosphite 0.75, sulfurized olefin 1, fatty acid amide 0.25, seal swell agent 0.3, borated Na carbonate-overbased Na alkylbenzenesulfonate 3.75, polyisobutenylsuccinic anhydride-ethoxylated amine reaction products 0.31 parts, and polydimethyl siloxane 100 ppm; the product had a high dynamic coeff. of **friction** and a low static coeff. of **friction**.
ST transmission fluid manual compn; borated overbased alkylbenzenesulfonate transmission fluid; **friction** modifier manual transmission fluid; lubricant transmission fluid manual
IT Epoxides
RL: USES (Uses)
(borated C16-fatty, manual transmission fluids contg.)
IT Siloxanes and Silicones, uses and miscellaneous

RL: USES (Uses)
(di-Me, **foam inhibitor**, manual transmission fluids contg.)

IT Amines, compounds
RL: USES (Uses)
(ethoxylated, manual transmission fluids contg.)

IT Amides, uses and miscellaneous
RL: USES (Uses)
(fatty, manual transmission fluids contg.)

IT Alkenes, compounds
RL: USES (Uses)
(sulfurized, manual transmission fluids contg.)

IT 71-43-2D, Benzene, alkylated 98-11-3D, Benzenesulfonic acid, alkyl derivs., salts, (overbased, borated) 108-30-5D, Succinic anhydride, polyisobutenyl derivs., reaction products with ethoxylated amine 108-95-2D, Phenol, C12-alkyl derivs., sulfur coupled, calcium salts, overbased 301-02-0, Oleyl amide 19210-06-1, Zinc dithiophosphate 25088-57-7, Dioleyl phosphite 25189-70-2, 1-Decene polymer 25496-72-4 25496-72-4D, borated
RL: USES (Uses)
(manual transmission fluids contg.)

IT 9011-13-6D, esterified
RL: USES (Uses)
(pour point depressant, manual transmission fluids contg.)

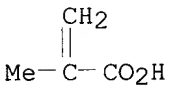
IT 9003-27-4, Polyisobutylene **25087-26-7**
RL: USES (Uses)
(viscosity improver, manual transmission fluids contg.)

IT **25087-26-7**
RL: USES (Uses)
(viscosity improver, manual transmission fluids contg.)

RN 25087-26-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2



L46 ANSWER 36 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1988:168985 HCAPLUS
DN 108:168985
TI Manufacture of thermoplastic-rubber polymer alloys
IN Orndorff, Roy Lee, Jr.
PA Goodrich, B. F., Co., USA
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW
DT Patent
LA English
IC ICM C08L021-00
ICS C08L023-06; F16C033-22
CC 39-9 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 37
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 254307	A1	19880127	EP 1987-110656	19870723
	EP 254307	B1	19911227		

R: DE, FR, GB

US 4735982	A	19880405	US 1986-889541	19860725
CA 1308842	A1	19921013	CA 1987-543008	19870724
JP 63099266	A2	19880430	JP 1987-184703	19870725

PRAI US 1986-889541 19860725

AB Thermoplastic-thermoset rubber polymer alloys, having good wet and dry **friction** and wear resistance, and useful for hard bearings, are manufd. by dry blending the thermoplastic compd. with ground thermoset rubber and a **lubricant**, heating and mixing the **compn.** to above the glass temp. of the thermoplastic compd., and subsequently cooling under **pressure**. Hostalen GUR 321.48, ground nitrile rubber vulcanizate 117.9, and graphite powder (grade 117-A) 87.2 g were mixed and compression molded at 350.degree. F in 667 psi **pressure** for 1 h to give a polymer alloy (0.720 in thick). The alloy was used in the std. cutless bearing wet wear test at 20 rpm showing wear rate 0.0045 .times. 10-4 g/h, compared with 1,897 .times. 10-4 g/h for Thordon XL.

ST nitrile rubber thermoplastic alloy; polyethylene rubber alloy wear resistance; graphite lubricant thermoplastic alloy; bearing thermoplastic rubber alloy

IT Rubber, butyl, uses and miscellaneous
Rubber, nitrile, uses and miscellaneous
RL: USES (Uses)
(alloy with thermoplastic, lubricant-contg., wear-resistant, for bearings)

IT Lubricants
(graphite and molybdenum disulfide and silicones, for thermoplastic-thermoset rubber alloys)

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(**oil**, lubricants, for thermoplastic-thermoset rubber alloys)

IT Glass fibers, uses and miscellaneous
RL: USES (Uses)
(short, thermoplastic-thermoset alloy reinforced by, wear-resistant, for bearings)

IT Bearings
(thermoplastic-thermoset rubber alloy for, wear-resistant)

IT Abrasion-resistant materials
(thermoplastic-thermoset rubber alloys for, lubricant-contg.)

IT Rubber, synthetic
RL: USES (Uses)
(EPDM, alloy with thermoplastic, lubricant-contg., wear-resistant, for bearings)

IT Polyamide fibers, uses and miscellaneous
RL: USES (Uses)
(aramid, short, thermoplastic-thermoset alloy reinforced by, wear-resistant, for bearings)

IT Synthetic fibers, polymeric
RL: USES (Uses)
(fluoropolymers, short, thermoplastic-thermoset alloy reinforced by, wear-resistant, for bearings)

IT Rubber, synthetic
RL: USES (Uses)
(hexafluoropropene-vinylidene fluoride, alloy with thermoplastic, lubricant-contg., wear-resistant, for bearings)

IT Plastics
RL: USES (Uses)
(thermo-, alloys with rubber vulcanizate, lubricant-contg., wear-resistant)

IT 9002-88-4
RL: USES (Uses)
(alloys with nitrile rubber vulcanizate, lubricant-contg., wear-resistant, for bearings)

IT **7782-42-5**, Graphite, uses and miscellaneous 23261-43-0
RL: USES (Uses)

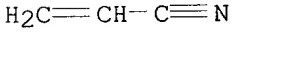
(lubricants, for thermoplastic-thermoset rubber alloys, wear-resistant)
IT 74-85-1
RL: USES (Uses)
(rubber, EPDM, alloy with thermoplastic, lubricant-contg., wear-resistant, for bearings)
IT **9003-18-3** 9010-85-9
RL: USES (Uses)
(rubber, alloy with thermoplastic, lubricant-contg., wear-resistant, for bearings)
IT 9011-17-0, Hexafluoropropene-vinylidene fluoride copolymer
RL: USES (Uses)
(rubber, alloys with thermoplastic, lubricant-contg., wear-resistant, for bearings)
IT **7782-42-5**, Graphite, uses and miscellaneous
RL: USES (Uses)
(lubricants, for thermoplastic-thermoset rubber alloys, wear-resistant)
RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

IT **9003-18-3**
RL: USES (Uses)
(rubber, alloy with thermoplastic, lubricant-contg., wear-resistant, for bearings)
RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

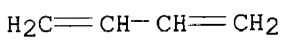
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 37 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:639650 HCAPLUS
DN 107:239650
TI Lubricating compositions for hot-drawing of seamless steel tubes
IN Muto, Takashi; Okita, Satoru; Kawaguchi, Tetsuto
PA Nippon Steel Chemical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM **C10M173-02**
ICI C10M173-02, C10M103-02, C10M103-00, C10M103-06, C10M107-34, C10M107-28, C10M107-24, C10M107-06; C10M173-02, C10M103-02, C10M103-06, C10M107-34, C10M107-28, C10M107-24, C10M107-06; C10N010-08, C10N010-12, C10N010-16,

C10N030-08
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 62184096	A2	19870812	JP 1986-24168	19860207
	JP 07107157	B4	19951115		

AB Title **compns**. comprise powd. graphite 45-90, **lubricant** components (e.g., BN) 3-30, and **water**-sol. or **water** -dispersible resins 7-35 parts. Thus, a mixt. of powd. graphite (av. size 10 .mu.m) 74.1, BN 3.7, polyethylene glycol (I) 11.1, and an **acrylic** acid-Me **acrylate** copolymer (II) 11.1 parts was dispersed in **water** contg. a surfactant and a defoaming agent, and sprayed on a SKD 61 specimen heated at 100.degree. to form a film 60 .mu. thick. The coated specimen brought into contact with a rotating specimen to be hot-drawn (heated to 1000.degree.) at 19.5 kg/mm2 and relative sliding speed 1.5 m/s showed an av. **friction** coeff. 0.015 at a contact time of 0-3 s vs. 0.042 with a **lubricant** **compn**. contg. BN 76.9, I 11.5, and II 11.6 parts.

ST lubricant graphite PEG resin metalworking; seamless steel hot drawing lubricant; boron nitride graphite resin lubricant; **acrylic** acid copolymer drawing lubricant; **acrylate** methyl copolymer drawing lubricant

IT Glass, oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant contg., for hot drawing of seamless steel tubes)

IT Pipes and Tubes
(steel, seamless, hot drawing of, lubricants for)

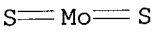
IT Lubricants
(high-temp., metalworking, for hot drawing of seamless steel tubes)

IT **1317-33-5**, Molybdenum sulfide (MoS2), uses and miscellaneous **7782-42-5**, Graphite, uses and miscellaneous 9002-89-5, Poly(vinyl alcohol) 9003-07-0, Polypropylene **10043-11-5**, Boron nitride, uses and miscellaneous 11104-61-3, Cobalt oxide **12138-09-9**, Tungsten sulfide (WS2) 13463-67-7, Titanium oxide (TiO2), uses and miscellaneous **25249-16-5 25302-81-2**, **Acrylic** acid-methyl **acrylate** copolymer 25322-68-3, Polyethylene glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant contg., for hot drawing of seamless steel tubes)

IT 12597-69-2
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricants, high-temp., metalworking, for hot drawing of seamless steel tubes)

IT **1317-33-5**, Molybdenum sulfide (MoS2), uses and miscellaneous **7782-42-5**, Graphite, uses and miscellaneous **10043-11-5**, Boron nitride, uses and miscellaneous **12138-09-9**, Tungsten sulfide (WS2) **25249-16-5 25302-81-2**, **Acrylic** acid-methyl **acrylate** copolymer
RL: TEM (Technical or engineered material use); USES (Uses)
(lubricant contg., for hot drawing of seamless steel tubes)

RN 1317-33-5 HCAPLUS
CN Molybdenum sulfide (MoS2) (8CI, 9CI) (CA INDEX NAME)

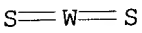


RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

RN 10043-11-5 HCAPLUS
CN Boron nitride (BN) (8CI, 9CI) (CA INDEX NAME)

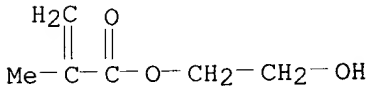
RN 12138-09-9 HCAPLUS
CN Tungsten sulfide (WS2) (8CI, 9CI) (CA INDEX NAME)



RN 25249-16-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

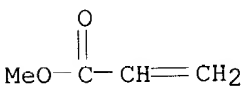
CRN 868-77-9
CMF C6 H10 O3



RN 25302-81-2 HCAPLUS
CN 2-Propenoic acid, polymer with methyl 2-propenoate (9CI) (CA INDEX NAME)

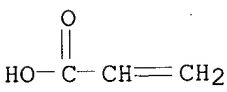
CM 1

CRN 96-33-3
CMF C4 H6 O2



CM 2

CRN 79-10-7
CMF C3 H4 O2



L46 ANSWER 38 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:216833 HCAPLUS
DN 106:216833

TI Sulfur-containing **compositions**, and additive concentrates, lubricating **oils**, metal working **lubricants** and asphalt **compositions** containing same

IN DiBiase, Stephen A.; Sowerby, Roger Lee; Higgins, William Albert

PA Lubrizol Corp. , USA

SO PCT Int. Appl., 97 pp.
CODEN: PIXXD2

DT Patent

LA English

IC C07C149-00; **C10M135-02**; C08K005-36

CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8700833	A1	19870212	WO 1986-US1509	19860721
	W: AU, BR, JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 4740322	A	19880426	US 1986-824490	19860131
	IN 168102	A	19910202	IN 1986-DE607	19860710
	ZA 8605342	A	19870325	ZA 1986-5342	19860717
	AU 8661480	A1	19870305	AU 1986-61480	19860721
	AU 598742	B2	19900705		
	EP 232327	A1	19870819	EP 1986-904701	19860721
	EP 232327	B1	19901003		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	BR 8606844	A	19871103	BR 1986-6844	19860721
	JP 63500718	T2	19880317	JP 1986-504054	19860721
	AT 57180	E	19901015	AT 1986-904701	19860721
	ES 2001485	A6	19880601	ES 1986-656	19860728
	CA 1259305	A1	19890912	CA 1986-514774	19860728
	CA 1267131	A1	19900327	CA 1986-514773	19860728
	ES 2007182	A6	19890601	ES 1988-1045	19880406
PRAI	US 1985-760186		19850729		
	US 1986-824490		19860131		
	EP 1986-904701		19860721		
	WO 1986-US1509		19860721		

AB S-contg. **compns.**, useful as general purpose **antioxidants** and **friction** modifiers for lubricating **compns.** and automatic transmission fluids and as additives, esp., in metalworking **lubricants**, are prepd. by sulfurizing (1) >1 fatty acid ester of a polyhydric alc., or (2) >1 fatty acid or fatty acid ester of a monohydric alc., or its mixt., or (3) >1 other olefin, or (4) .gtoreq.2 mixts. of (1), (2), and (3) in the presence of a catalytic amt. of (5) >1 dithiocarbamate salt of general formula R1R2NC(:S)SH (R1 and R2 are independent hydrocarbyl, or (6) >1 mercaptobenzothiazole, or (7) mixts. of (5) and (6). Suitable compns. to be sulfurized include Diels-Alder adducts of (meth)**acrylate** esters with butadiene or isoprene. The above-described sulfurized compns. as well as sulfurized compns. prepd. in the absence of catalysts (5) and/or (6) are also useful in asphalt compns., esp. asphalt cement. Thus, a metalworking lubricating **oil** contained 95 wt. parts mineral **oil** and 5 wt. parts sulfurized compn. (prepd. by sulfuration of C15-18-.alpha.-olefins in the presence of Zn diamyldithiocarbamate).

ST metalworking lubricant **antioxidant friction** modifier; lubricating **oil** additive sulfurized compn; fatty acid ester sulfuration lubricant; olefin sulfurized lubricating **oil** additive; Diels Alder adduct sulfurized lubricant additive; zinc dithiocarbamate catalyst lubricant sulfuration; mercaptobenzothiazole sulfuration catalyst lubricant additive; asphalt cement additive sulfurized compn; **acrylate** sulfurized lubricating **oil** additive; **methacrylate** sulfurized lubricating **oil** additive

IT Lubricating **oil** additives
(**antioxidants-friction** modifiers, sulfurized fatty

acids (or esters) and/or olefins)
IT Pavements and Roads
(asphalt concrete, prepn. of, stabilizing additives for, contg. sulfurized fatty acids (or esters) or olefins)
IT Soybean **oil**
RL: USES (Uses)
(mixts. with alkenes, sulfurized, additives, for metalworking lubricants and/or asphalt)
IT Cottonseed **oil**
Lard
Peanut **oil**
RL: USES (Uses)
(mixts. with alkenes, sulfurized, asphalt stabilizing additives)
IT Lecithins
RL: USES (Uses)
(mixts. with soybean **oil**, tall-**oil** acids, and C15-18-.alpha.-olefins, sulfurized, additives, for metalworking lubricants and asphalt)
IT Diels-Alder reaction
(of (meth)**acrylate** esters, products from, sulfurized, additives, for metalworking lubricants and asphalt)
IT Sulfuration catalysts
(of fatty acids(s) (or esters) and/or olefins, in manuf. of lubricant and/or asphalt additives)
IT Asphalt
RL: USES (Uses)
(stability improvers for, sulfurized fatty acids (or esters) and/or olefins)
IT Sunflower **oil**
RL: USES (Uses)
(sulfurized, additives, for metalworking lubricants and/or asphalt)
IT Fatty acids, esters
RL: USES (Uses)
(esters, sulfurized, additives, for metalworking lubricants and/or asphalt)
IT Lubricants
(metalworking, contg. sulfurized fatty acids (or esters) and/or olefins)
IT Glycerides, compounds
RL: USES (Uses)
(mixts., with alkenes, sulfurized, asphalt-stabilizing additives)
IT **Oils**, essential
RL: USES (Uses)
(pine, mixts. with alkenes, sulfurized, additives, for metalworking lubricants and/or asphalt)
IT Fatty acids, compounds
RL: USES (Uses)
(tall-**oil**, sulfurized, additives, for metalworking lubricants and/or asphalt)
IT 28805-52-9 38094-73-4 38094-74-5 59321-72-1 71902-20-0
RL: USES (Uses)
(additive, for metalworking lubricants and asphalt)
IT 78-79-5D, Diels-Alder adducts with alkyl (meth)**acrylates**, sulfurized 79-10-7D, alkyl esters, Diels-Alder adducts with isoprene, sulfurized 79-41-4D, alkyl esters, Diels-Alder adducts with isoprene, sulfurized 6493-77-2D, sulfurized 37981-14-9D, sulfurized 38097-78-8D, sulfurized
RL: USES (Uses)
(additives, for metalworking lubricants and asphalt)
IT 98-83-9D, .alpha.-Methylstyrene, sulfurized 106-98-9D, mixt. with alkenes, sulfurized 110-83-8D, Cyclohexene, sulfurized 112-62-9D, Methyl oleate, sulfurized 592-41-6D, 1-Hexene, mixt. with alkenes, sulfurized 872-05-9D, 1-Decene, isomerized, sulfurized 1330-61-6D, Isodecyl **acrylate**, sulfurized 7756-94-7D, sulfurized

9003-27-4D, Polyisobutene, sulfurized 25167-70-8D, Diisobutene, sulfurized
RL: USES (Uses)
(additives, for metalworking lubricants and/or asphalt)

IT 101-02-0
RL: USES (Uses)
(mixts. with C15-18-.alpha.-olefins and soybean **oil**, sulfurized, additives, for metalworking lubricants and asphalt)

IT 112-80-1, Oleic acid, uses and miscellaneous
RL: USES (Uses)
(mixts. with alkenes and soybean **oil**, sulfurized, metalworking lubricant additives)

IT 111-66-0 115-11-7, uses and miscellaneous
RL: USES (Uses)
(mixts. with alkenes, sulfurized, additives, for metalworking lubricants and/or asphalt)

IT 115-11-7D, polymers
RL: USES (Uses)
(mixts. with soybean **oil** and tall-**oil** acids, sulfurized, additives, for metalworking lubricants and asphalt)

IT 629-73-2
RL: USES (Uses)
(mixts. with soybean **oil**, sulfurized, asphalt stabilizing additives)

IT 149-30-4 13927-71-4 15337-18-5, Zinc diamyldithiocarbamate
RL: CAT (Catalyst use); USES (Uses)
(sulfuration catalyst, for fatty acid (esters) and/or olefins, in manuf. of metalworking lubricant and/or asphalt additives)

IT 7704-34-9, Sulfur, uses and miscellaneous
RL: USES (Uses)
(sulfurizing agent, for fatty acids (esters) and/or olefins, in manuf. of lubricant and/or asphalt additives)

L46 ANSWER 39 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:159364 HCAPLUS
DN 106:159364
TI Cold-rolling **lubricant compositions**
IN Muto, Toshimi; Muraki, Kazuyuki
PA Yushiro Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM **C10M149-04**
ICS **C10M149-06**
ICI C10N030-04, C10N030-06, C10N040-24
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62011799	A2	19870120	JP 1985-149886	19850710

AB **Dispersants** for cold-rolling lubricant concs. (contg. fats, fatty esters, and/or mineral **oils**) consist of polymers of a vinyl compd. and an unsatd. aminoalkyl ester or amide of formula CH2:CR1COA(CH2)nNR2R3 or CH2:CR1CO2CH2CH(OH)CH2NR2R3 (A = O or NH, R1 = H or Me; R2, R3 = C1-3-alkyl; n = 1-3). Thus, 99 parts machine **oil** was mixed with 1 part **dispersant** mixt. consisting of a 9:1 (mol ratio units) diethylaminoethyl **methacrylate** phosphate-styrene copolymer. The lubricant mixt. conc. was dild. to 2 wt.% with **water**. The max. load for an extreme-**pressure** test and **friction** coeff. were 10.5 kg/cm2 and 0.11, resp.

ST lubricant cold rolling aminoalkyl **acrylate**; vinyl copolymer cold rolling lubricant; **dispersant** cold rolling **aq**

lubricant; **methacrylate** aminoalkyl cold rolling lubricant

IT Lubricants
(copolymers of vinyl compds. with aminoalkyl **acrylates** or **methacrylates**)

IT Fats, uses and miscellaneous
RL: USES (Uses)
(lubricant concs. contg., **aq.**, for cold-rolling, polymer **dispersants** for)

IT Fatty acids, esters
RL: USES (Uses)
(esters, lubricant concs. contg., **aq.**, for cold-rolling, polymer **dispersants** for)

IT Vinyl compounds, polymers
RL: USES (Uses)
(polymers, with unsatd. aminoalkyl esters or amides, **dispersants**, for **aq.** cold-rolling lubricants)

IT **107719-59-5 107719-60-8 107719-61-9**
107719-63-1 107719-65-3 107719-66-4
107719-68-6 107719-70-0 107720-32-1
107720-33-2 107720-38-7 107720-39-8
107748-54-9 107760-92-9 107783-91-5
RL: USES (Uses)
(**dispersant**, for **aq.** cold-rolling lubricants)

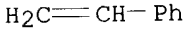
IT **107719-59-5 107719-60-8 107719-61-9**
107719-63-1 107719-65-3 107719-66-4
107719-68-6 107719-70-0 107720-32-1
107720-33-2 107720-38-7 107720-39-8
107748-54-9 107760-92-9 107783-91-5
RL: USES (Uses)
(**dispersant**, for **aq.** cold-rolling lubricants)

RN 107719-59-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, phosphate, polymer with 3-(dimethylamino)-2-hydroxypropyl 2-methyl-2-propenoate phosphate (salt) and ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

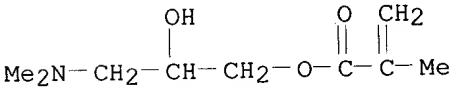


CM 2

CRN 95243-16-6
CMF C9 H17 N O3 . x H3 O4 P

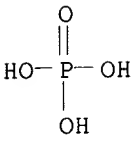
CM 3

CRN 37817-81-5
CMF C9 H17 N O3



CM 4

CRN 7664-38-2
CMF H3 O4 P

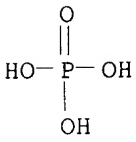


CM 5

CRN 95215-19-3
CMF C8 H15 N O2 . x H3 O4 P

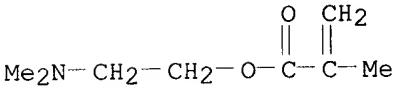
CM 6

CRN 7664-38-2
CMF H3 O4 P



CM 7

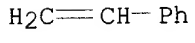
CRN 2867-47-2
CMF C8 H15 N O2



RN 107719-60-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester, phosphate, polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8



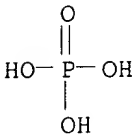
CM 2

CRN 14480-03-6
CMF C10 H19 N O2 . x H3 O4 P

CM 3

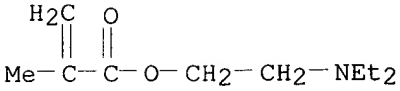
CRN 7664-38-2

CMF H3 O4 P



CM 4

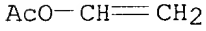
CRN 105-16-8
CMF C10 H19 N O2



RN 107719-61-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(diethylamino)ethyl ester, phosphate, polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2

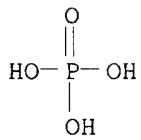


CM 2

CRN 14480-03-6
CMF C10 H19 N O2 . x H3 O4 P

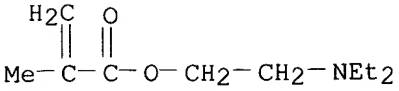
CM 3

CRN 7664-38-2
CMF H3 O4 P



CM 4

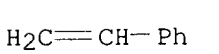
CRN 105-16-8
CMF C10 H19 N O2



RN 107719-63-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, compd. with boric acid (H3BO3), polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

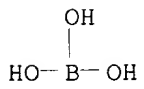


CM 2

CRN 107719-62-0
CMF C8 H15 N O2 . x B H3 O3

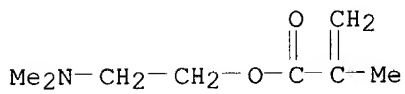
CM 3

CRN 10043-35-3
CMF B H3 O3



CM 4

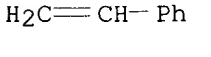
CRN 2867-47-2
CMF C8 H15 N O2



RN 107719-65-3 HCAPLUS
RN 107719-66-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-(dimethylamino)-2-hydroxypropyl ester, phosphate (salt), polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

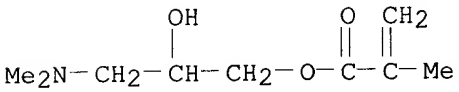


CM 2

CRN 95243-16-6
CMF C9 H17 N O3 . x H3 O4 P

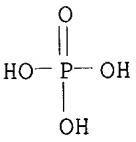
CM 3

CRN 37817-81-5
CMF C9 H17 N O3



CM 4

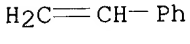
CRN 7664-38-2
CMF H3 O4 P



RN 107719-68-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-(diethylamino)-2-hydroxypropyl ester, propanoate (salt), polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

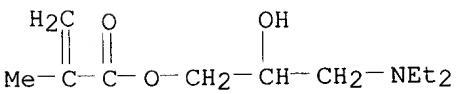


CM 2

CRN 107719-67-5
CMF C11 H21 N O3 . C3 H6 O2

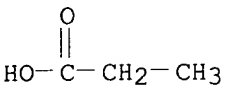
CM 3

CRN 21714-01-2
CMF C11 H21 N O3



CM 4

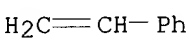
CRN 79-09-4
CMF C3 H6 O2



RN 107719-70-0 HCAPLUS
CN 1-Propanaminium, N,N-diethyl-2-hydroxy-N-methyl-3-[(2-methyl-1-oxo-2-propenyl)oxy], methyl sulfate (salt), polymer with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 100-42-5
CMF C8 H8

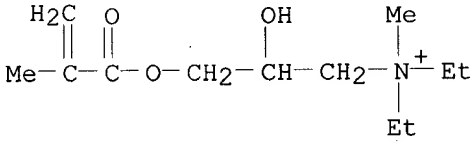


CM 2

CRN 107719-69-7
CMF C12 H24 N O3 . C H3 O4 S

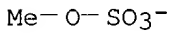
CM 3

CRN 147977-74-0
CMF C12 H24 N O3



CM 4

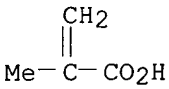
CRN 21228-90-0
CMF C H3 O4 S



RN 107720-32-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-(dimethylamino)-2-hydroxypropyl ester, propanoate (salt), polymer with ethenyl acetate and sodium 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

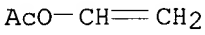
CRN 5536-61-8
CMF C4 H6 O2 . Na



● Na

CM 2

CRN 108-05-4
CMF C4 H6 O2

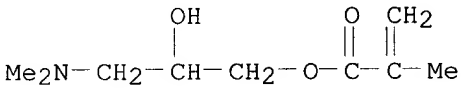


CM 3

CRN 107720-31-0
CMF C9 H17 N O3 . C3 H6 O2

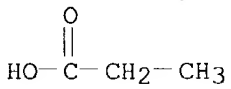
CM 4

CRN 37817-81-5
CMF C9 H17 N O3



CM 5

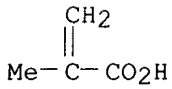
CRN 79-09-4
CMF C3 H6 O2



RN 107720-33-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, phosphate, polymer with 3-(dimethylamino)-2-hydroxypropyl 2-methyl-2-propenoate phosphate (salt), ethenylbenzene and sodium 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

CM 1

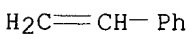
CRN 5536-61-8
CMF C4 H6 O2 . Na



● Na

CM 2

CRN 100-42-5
CMF C8 H8

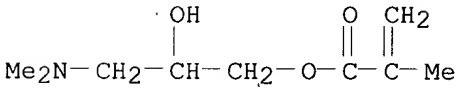


CM 3

CRN 95243-16-6
CMF C9 H17 N O3 . x H3 O4 P

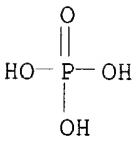
CM 4

CRN 37817-81-5
CMF C9 H17 N O3



CM 5

CRN 7664-38-2
CMF H3 O4 P

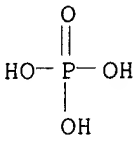


CM 6

CRN 95215-19-3
CMF C8 H15 N O2 . x H3 O4 P

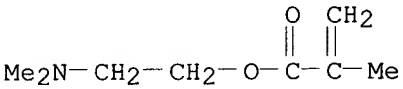
CM 7

CRN 7664-38-2
CMF H3 O4 P



CM 8

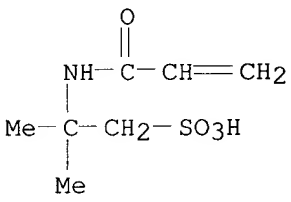
CRN 2867-47-2
CMF C8 H15 N O2



RN 107720-38-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, propanoate, polymer with ethenyl acetate and 2-methyl-2-[(1-oxo-2-propenyl)amino]-1-propanesulfonic acid monosodium salt (9CI) (CA INDEX NAME)

CM 1

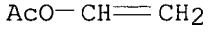
CRN 5165-97-9
CMF C7 H13 N O4 S . Na



Na

CM 2

CRN 108-05-4
CMF C4 H6 O2

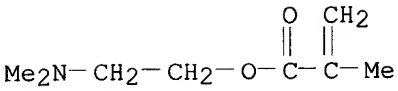


CM 3

CRN 107720-37-6
CMF C8 H15 N O2 . C3 H6 O2

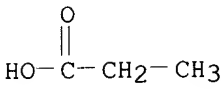
CM 4

CRN 2867-47-2
CMF C8 H15 N O2



CM 5

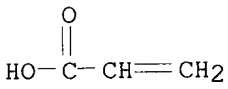
CRN 79-09-4
CMF C3 H6 O2



RN 107720-39-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-(dimethylamino)ethyl ester, polymer with ethenylbenzene and sodium 2-propenoate (9CI) (CA INDEX NAME)

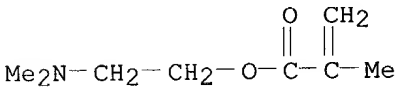
CM 1

CRN 7446-81-3
CMF C3 H4 O2 . Na



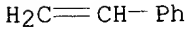
CM 2

CRN 2867-47-2
CMF C8 H15 N O2



CM 3

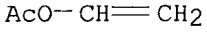
CRN 100-42-5
CMF C8 H8



RN 107748-54-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-(diethylamino)-2-hydroxypropyl ester, propanoate (salt), polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2

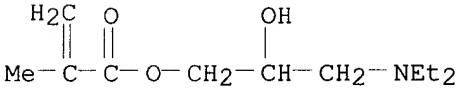


CM 2

CRN 107719-67-5
CMF C11 H21 N O3 . C3 H6 O2

CM 3

CRN 21714-01-2
CMF C11 H21 N O3



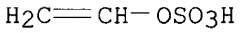
CM 4

CRN 79-09-4
CMF C3 H6 O2

RN 107760-92-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 3-(dimethylamino)-2-hydroxypropyl ester, phosphate, polymer with ethenylbenzene and sodium ethenyl sulfate (9CI) (CA INDEX NAME)

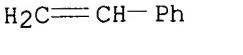
CM 1

CRN 5736-22-1
CMF C2 H4 O4 S . Na



CM 2

CRN 100-42-5
CMF C8 H8

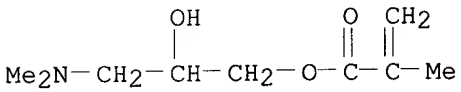


CM 3

CRN 95243-16-6
CMF C9 H17 N O3 . x H3 O4 P

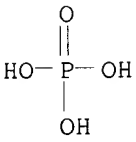
CM 4

CRN 37817-81-5
CMF C9 H17 N O3



CM 5

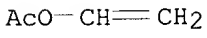
CRN 7664-38-2
CMF H3 O4 P



RN 107783-91-5 HCAPLUS
CN Butanoic acid, compd. with 2-(diethylamino)ethyl 2-methyl-2-propenoate (1:1), polymer with ethenyl acetate (9CI) (CA INDEX NAME)

CM 1

CRN 108-05-4
CMF C4 H6 O2

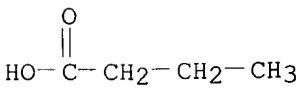


CM 2

CRN 107783-90-4
CMF C10 H19 N O2 . C4 H8 O2

CM 3

CRN 107-92-6
CMF C4 H8 O2



CM 4

CRN 105-16-8
CMF C10 H19 N O2

L46 ANSWER 40 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:139527 HCAPLUS
DN 106:139527
TI Wet **friction** material compositions
IN Nakazawa, Shiro; Nakajima, Junichi
PA Toshiba Tungaloy Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM F16D069-02
ICS C08G059-42; C08G059-62; C08L021-00; C08L063-00
CC 38-3 (Plastics Fabrication and Uses)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61256030	A2	19861113	JP 1985-99309	19850510
	JP 05045807	B4	19930712		

AB **Compns.** comprising an epoxy resin 5-30, a rubber (e.g. carboxy-modified nitrile rubber, epoxy-modified **acrylic** rubber) 3-40, and a **friction** filler contg. **lubricants** (e.g. graphite, Mo disulfide, Pb) <70, hard particles (with Mohs hardness >4) <30, abrasion adjustment materials (e.g. BaSO4, CaCO3, MgCO3, cashew dust) <25, and fibers or whisker (e.g. pulp, C fibers, arom. polyamide fibers, phenolic fibers, Al-Si fibers, glass fibers, Cu or Cu alloy fibers, Fe or Fe alloy fibers, SiC whisker) <80% as well as sufficient amt. of a hardener [e.g. poly(p-hydroxystyrene) (I), phenolic resin, phenol-aralkyl resin, carboxylic anhydride] have high load capacity and **friction** coeff.,, low abrasion, and good mech. strength. Thus, a cured sheet of a mixt. of glass fibers 50, graphite 15, silica 5, carboxy-modified nitrile rubber 15, an epoxy resin 15, and I 7% had elastic modulus 50 kg/mm2, Rockwell hardness (15Y) 75, low abrasion, and high durability and **oil** resistance.

ST abrasion wet **friction** material; epoxy resin wet **friction** material; nitrile rubber wet **friction** material; glass fiber wet **friction** material; graphite wet **friction** material; silica wet **friction** material; polyhydroxystyrene wet **friction** material

IT Phenolic resins, uses and miscellaneous
RL: **MOA (Modifier or additive use)**; USES (Uses)
(crosslinking agents, epoxy resins contg. rubbers and **friction** fillers and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

IT Cashew
(dust, **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

IT Abrasion-resistant materials
(epoxy resins contg. rubbers and **friction** fillers and hardeners as, for wet **friction** materials)

IT Crosslinking agents
(epoxy resins contg., for wet **friction** materials)
IT Crystal whiskers
Pulp, cellulose
Carbon fibers, uses and miscellaneous
Glass fibers, uses and miscellaneous
Metallic fibers
RL: USES (Uses)
(**friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(wet **friction** materials, contg. rubbers and **friction** fillers and hardeners, with high **friction** coeff. and low abrasion)
IT **Friction** materials
(wet, epoxy resins contg. rubbers and **friction** fillers and hardeners as, with low abrasion)
IT Rubber, synthetic
RL: USES (Uses)
(**acrylic**-epoxy, epoxy resins contg. **friction** fillers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT Epoxy resins, uses and miscellaneous
RL: USES (Uses)
(alicyclic, wet **friction** materials, contg. rubbers and **friction** fillers and hardeners, with high **friction** coeff. and low abrasion)
IT Synthetic fibers
RL: USES (Uses)
(aluminum oxide-silica, **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT Polyamide fibers, uses and miscellaneous
RL: USES (Uses)
(arom., **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT Rubber, nitrile, uses and miscellaneous
RL: USES (Uses)
(carboxy-contg., epoxy resins contg. **friction** fillers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT Synthetic fibers, polymeric
RL: USES (Uses)
(phenolic resins, **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT **7440-44-0**
RL: USES (Uses)
(carbon fibers, **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT 24979-70-2, Poly(P-hydroxystyrene)
RL: **MOA (Modifier or additive use)**; USES (Uses)
(crosslinking agents, epoxy resins contg. rubbers and **friction** fillers and, for wet **friction** materials, with high **friction** coeff. and low abrasion)
IT 471-34-1, Calcium carbonate, properties 546-93-0, Magnesium carbonate **1317-33-5**, Molybdenum disulfide, properties **7439-92-1**, Lead, properties 7631-86-9, Silica, properties 7727-43-7, Barium sulfate **7782-42-5**, Graphite, properties
RL: PRP (Properties)

(**friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

IT 9004-34-6
RL: USES (Uses)
(pulp, **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

IT **9003-18-3**
RL: USES (Uses)
(rubber, carboxy-contg., epoxy resins contg. **friction** fillers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

IT 25068-38-6, Bisphenol A-epichlorohydrin copolymer
RL: USES (Uses)
(wet **friction** materials, contg. rubbers and **friction** fillers and hardeners, with high **friction** coeff. and low abrasion)

IT **7440-44-0**
RL: USES (Uses)
(carbon fibers, **friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

RN 7440-44-0 HCAPLUS
CN Carbon (7CI, 8CI, 9CI) (CA INDEX NAME)

C

IT **1317-33-5**, Molybdenum disulfide, properties **7439-92-1**, Lead, properties **7782-42-5**, Graphite, properties
RL: PRP (Properties)
(**friction** fillers, epoxy resins contg. rubbers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

RN 1317-33-5 HCAPLUS
CN Molybdenum sulfide (MoS2) (8CI, 9CI) (CA INDEX NAME)

S═Mo═S

RN 7439-92-1 HCAPLUS
CN Lead (8CI, 9CI) (CA INDEX NAME)

Pb

RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

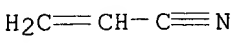
C

IT **9003-18-3**
RL: USES (Uses)
(rubber, carboxy-contg., epoxy resins contg. **friction** fillers and hardeners and, for wet **friction** materials, with high **friction** coeff. and low abrasion)

RN 9003-18-3 HCAPLUS
CN 2-Propenenitrile, polymer with 1,3-butadiene (9CI) (CA INDEX NAME)

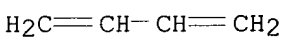
CM 1

CRN 107-13-1
CMF C3 H3 N



CM 2

CRN 106-99-0
CMF C4 H6



L46 ANSWER 41 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1987:35919 HCAPLUS
DN 106:35919
TI High-temperature **lubricant compositions**
IN Tanigawa, Keiichi; Okita, Satoru; Uchida, Hide; Takenaka, Hideo
PA Nippon Steel Chemical Co., Ltd., Japan; Nippon Steel Corp.
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM **C10M173-02**
ICI C10M173-02, C10M103-02, C10M103-06, C10M107-26, C10M107-28, C10M105-74; C10N010-02, C10N030-06, C10N040-24, C10N050-02
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 55
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61195197	A2	19860829	JP 1985-36134	19850225

AB Title compns. for metalworking, esp. useful in hot rolling of seamless steel pipes, comprise powd. graphite 100, **water**-sol. or **water**-dispersible polymers 5-70, and P compds. 1-60 parts. Thus, a lubricant contg. graphite (88% purity) 77, ethylene-vinyl acetate copolymer 13, and (NH4)2HPO4 10% was applied to a steel-sliding face and then tested under 19.5 kg/mm2 load at 1000.degree.. The **friction** coeff. of the lubricant was 0.03 vs. 0.06 for lubricant contg. no (NH4)2HPO4.
ST metalworking lubricant graphite seamless pipe; ethylene vinyl acetate copolymer lubricant; ammonium phosphate metalworking lubricant; steel pipe rolling lubricant
IT **Acrylic** polymers, uses and miscellaneous
Polyoxyalkylenes, uses and miscellaneous
RL: USES (Uses)
(metalworking lubricants contg., high-temp., for hot rolling of seamless steel pipes)
IT Lubricants
(metalworking, high-temp., graphite-based, for hot rolling of seamless steel pipes)
IT Pipes and Tubes
(seamless, steel, hot rolling of, high-temp. lubricants for)
IT 12597-69-2
RL: USES (Uses)
(lubricants, metalworking, high-temp., graphite-based, for hot rolling

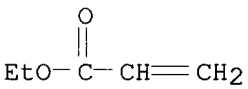
of seamless steel pipes)
IT 78-40-0 7558-79-4, Disodium hydrogen phosphate **7782-42-5**, Graphite, uses and miscellaneous 7783-28-0, Diammonium hydrogen phosphate **9010-86-0**, Ethyl **acrylate**-ethylene copolymer 9011-13-6, Maleic anhydride-styrene copolymer 24937-78-8, Ethylene-vinyl acetate copolymer 25322-69-4, Polypropylene glycol
RL: USES (Uses)
(metalworking lubricants contg., high-temp., for hot rolling of seamless steel pipes)
IT 12597-69-2
RL: USES (Uses)
(pipes and Tubes, seamless, steel, hot rolling of, high-temp. lubricants for)
IT **7782-42-5**, Graphite, uses and miscellaneous **9010-86-0**, Ethyl **acrylate**-ethylene copolymer
RL: USES (Uses)
(metalworking lubricants contg., high-temp., for hot rolling of seamless steel pipes)
RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

RN 9010-86-0 HCAPLUS
CN 2-Propenoic acid, ethyl ester, polymer with ethene (9CI) (CA INDEX NAME)

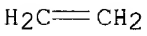
CM 1

CRN 140-88-5
CMF C5 H8 O2



CM 2

CRN 74-85-1
CMF C2 H4



L46 ANSWER 42 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1986:534909 HCAPLUS
DN 105:134909
TI Abrasion-resistant nylon compositions
IN Kato, Toshio
PA Daiichi Seiko K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM B41J003-10
ICS C08J003-20; C08K003-38; C08L077-00; **C10M111-04**
ICI C10M111-04, C10M103-00, C10M103-02, C10M107-44; C10N040-02
CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61095953	A2	19860514	JP 1984-216445	19841017
	JP 03041118	B4	19910621		

AB **Compns**. comprising a nylon resin 100, a **solid lubricant** (e.g., BN) optionally treated with a silane coupling agent 50-200, and carbon fibers 10-50 parts have high abrasion resistance against tungsten and low **friction** coeff., **water** absorption rate, and linear expansion coeff. and are useful in prepg. wire guides for wire-dot printers. Thus, a mixt. of nylon 66 (CM 3007) 100, BN 80, PTFE 40, and **polyacrylonitrile**-based carbon fibers 30 parts was injection molded to give a wire guide having abrasion coeff. 0.01 .times. 10-6 cm3.min/kg.m.h, **friction** coeff. 0.15, heat distortion temp. 240.degree., linear expansion coeff. 1.0 .times. 10-5 cm/cm..degree.C, **water** absorption 0.2%, and durability in working 3 .times. 109 dots.

ST abrasion resistance nylon molding compn; boron nitride nylon blend; PTFE nylon blend abrasion resistance; carbon fiber nylon blend; lubricant boron nitride nylon; silane coupler boron nitride

IT Lubricants
(boron nitride, nylon 66-PTFE-carbon fiber blends contg., for wire guides for wire-dot printers, abrasion-resistant)

IT Carbon fibers
RL: USES (Uses)
(nylon 66-boron nitride-PTFE blends, for wire guides for wire-dot printers, abrasion resistant)

IT Abrasion-resistant materials
(nylon 66-boron nitride-PTFE-carbon fiber blends, for wire guides for wire-dot printers)

IT Coupling agents
(silanes, for **solid lubricants** in nylon-carbon fiber blends)

IT Printing
(dot, app., wire guides for, nylon 66-boron nitride-PTFE-carbon fiber blends as, abrasion-resistant)

IT 32131-17-2, uses and miscellaneous
RL: USES (Uses)
(boron nitride-PTFE-carbon fiber blends, for wire guides for wire-dot printers, abrasion-resistant)

IT 10043-11-5, uses and miscellaneous
RL: USES (Uses)
(lubricants, nylon 66-PTFE-carbon fiber blends, for wire guides for wire-dot printers, abrasion-resistant)

IT 1317-33-5, uses and miscellaneous 9002-84-0
RL: USES (Uses)
(nylon 66-boron nitride-carbon fiber blends, for wire guides for wire-dot printers, abrasion-resistant)

L46 ANSWER 43 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1986:444870 HCAPLUS
DN 105:44870
TI Fluorine-containing polymer coating compositions
IN Kato, Akihiro; Hiramatsu, Yuji; Tokieda, Masato; Yamamoto, Takashi
PA Nippon Oils and Fats Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 18 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09D003-727
ICS C08L053-00
CC 42-10 (Coatings, Inks, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	JP 60228574	A2	19851113	JP 1984-83850	19840427
	JP 03063998	B4	19911003		

AB **Compns.** giving coatings with good **water**, soil, and **oil** repellency and low tack and **friction** coeff. 5-80% **solid lubricant** and 0.01-95% fluoroolefin copolymer prepd. from polymeric peroxides or azo compds. Thus, 50 parts Me **methacrylate** was heated with 4 parts [CO(CH2)4CO2(CH2)8O2C(CH2)4CO 2O]10 in 125 parts DMF at 70.degree. for 3 h, and the peroxy polymer soln. (90 parts) was mixed with 25 parts C8F17CH2CH2O2CCH:CH2 and 15 parts DMF over 30 min and heated at 70.degree. for 5 h to give a stable polymer dispersion. A mixt. of 0.05 part of this dispersion, 70 parts Epikote 1009, 105 parts MEK, and 10 parts PTFE was sand milled for 15 min, mixed with 50 parts urea resin, dild. with MEK, sprayed on steel, and baked at 180.degree. for 30 min to give a 15-.mu. coating with good properties.

ST fluoropolymer epoxy resin coating; **oil** resistance coating; antifriction coating fluoropolymer; soil resistance coating; **water** resistance coating; PTFE epoxy coating; peroxide polymeric coating

IT Polymerization catalysts
(polymeric peroxides and azo compds., for fluoropolymer coatings)

IT Azo compounds
Peroxides, uses and miscellaneous
RL: USES (Uses)
(polymeric, in fluoropolymer coating manuf.)

IT Coating materials
(antifriction, contg. fluoropolymers, **water**- and **oil**-repellent)

IT Lubricants
(solid, in coatings, blocking-resistant)

IT 25068-38-6
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, contg. fluoropolymers and **solid lubricants**, **water**- and **oil**-repellent and antifriction)

IT 9003-22-9 53570-70-0 66419-42-9 67894-10-4 100919-11-7
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, contg. fluoropolymers, **water**- and **oil**-repellent and antifriction)

IT **97126-83-5 97126-84-6 102939-04-8 102939-05-9 102939-06-0 102939-07-1 102939-42-4 103250-76-6**
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, **water**- and **oil**-repellent and antifriction)

IT 83560-00-3 83560-34-3 97126-78-8 97127-08-7 97127-10-1 97127-11-2 97161-95-0 102771-89-1 102773-50-2 102868-73-5 102938-99-8 102939-01-5 102939-03-7 102939-48-0 102966-23-4
RL: USES (Uses)
(in fluoropolymer coating manuf.)

IT 9002-84-0
RL: USES (Uses)
(lubricants, for fluoropolymer antifriction coatings)

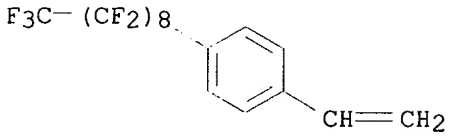
IT **97126-83-5 97126-84-6 102939-04-8 102939-05-9 102939-06-0 102939-07-1 102939-42-4 103250-76-6**
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, **water**- and **oil**-repellent and antifriction)

RN 97126-83-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, butyl ester, polymer with ethenyl acetate, ethenylbenzene and 1-ethenyl-4-(nonadecafluorononyl)benzene (9CI) (CA INDEX NAME)

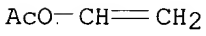
CM 1

CRN 97126-82-4
CMF C17 H7 F19



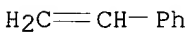
CM 2

CRN 108-05-4
CMF C4 H6 O2



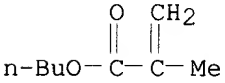
CM 3

CRN 100-42-5
CMF C8 H8



CM 4

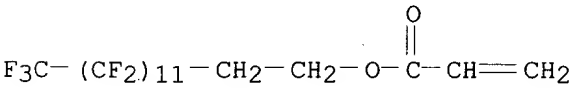
CRN 97-88-1
CMF C8 H14 O2



RN 97126-84-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, octadecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl 2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate, N-(hydroxymethyl)-2-propenamide and 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafluorotetradecyl 2-propenoate (9CI) (CA INDEX NAME)

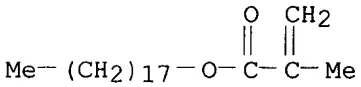
CM 1

CRN 34395-24-9
CMF C17 H7 F25 O2



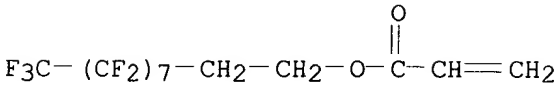
CM 2

CRN 32360-05-7
CMF C22 H42 O2



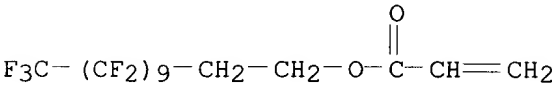
CM 3

CRN 27905-45-9
CMF C13 H7 F17 O2



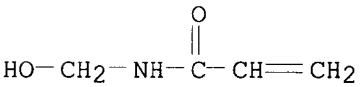
CM 4

CRN 17741-60-5
CMF C15 H7 F21 O2



CM 5

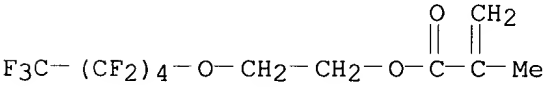
CRN 924-42-5
CMF C4 H7 N O2



RN 102939-04-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[(undecafluoropentyl)oxy]ethyl ester, polymer with butyl 2-propenoate and ethenylbenzene (9CI) (CA INDEX NAME)

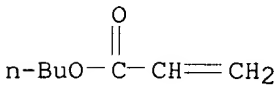
CM 1

CRN 101052-03-3
CMF C11 H9 F11 O3



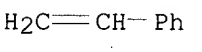
CM 2

CRN 141-32-2
CMF C7 H12 O2



CM 3

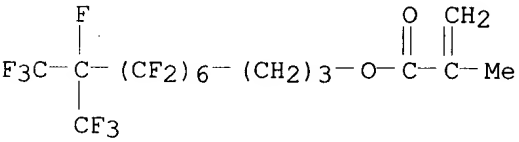
CRN 100-42-5
CMF C8 H8



RN 102939-05-9 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 4,4,5,5,6,6,7,7,8,8,9,9,10,11,11,11-hexadecafluoro-10-(trifluoromethyl)undecyl ester, polymer with 2-hydroxyethyl 2-methyl-2-propenoate and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

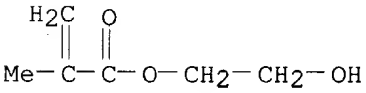
CM 1

CRN 31217-90-0
CMF C16 H11 F19 O2



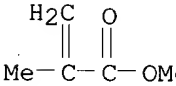
CM 2

CRN 868-77-9
CMF C6 H10 O3



CM 3

CRN 80-62-6
CMF C5 H8 O2

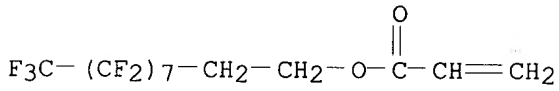


RN 102939-06-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with ethyl

2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-propenoate (9CI) (CA INDEX NAME)

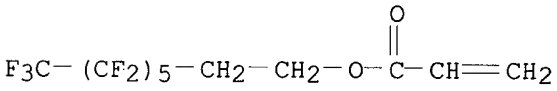
CM 1

CRN 27905-45-9
CMF C13 H7 F17 O2



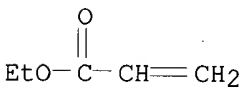
CM 2

CRN 17527-29-6
CMF C11 H7 F13 O2



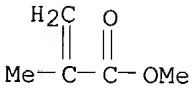
CM 3

CRN 140-88-5
CMF C5 H8 O2



CM 4

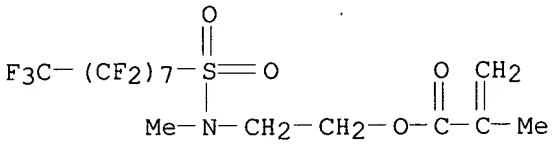
CRN 80-62-6
CMF C5 H8 O2



RN 102939-07-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-[[(heptadecafluorooctyl)sulfonyl]methylamino]ethyl ester, polymer with chloroethene and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

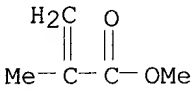
CM 1

CRN 14650-24-9
CMF C15 H12 F17 N O4 S



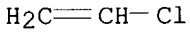
CM 2

CRN 80-62-6
CMF C5 H8 O2



CM 3

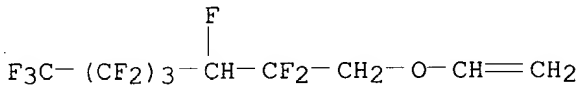
CRN 75-01-4
CMF C2 H3 Cl



RN 102939-42-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, propyl ester, polymer with 7-(ethenyloxy)-1,1,1,2,2,3,3,4,4,5,6,6-dodecafluoroheptane and .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-hydroxypoly(oxy-1,2-ethanediyl) (9CI) (CA INDEX NAME)

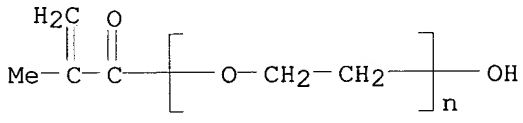
CM 1

CRN 97126-86-8
CMF C9 H6 F12 O



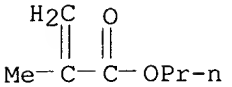
CM 2

CRN 25736-86-1
CMF (C2 H4 O)n C4 H6 O2
CCI PMS



CM 3

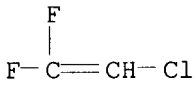
CRN 2210-28-8
CMF C7 H12 O2



RN 103250-76-6 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, ethyl ester, polymer with carbon disulfide and 2-chloro-1,1-difluoroethene (9CI) (CA INDEX NAME)

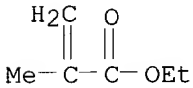
CM 1

CRN 359-10-4
CMF C2 H Cl F2



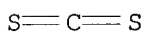
CM 2

CRN 97-63-2
CMF C6 H10 O2



CM 3

CRN 75-15-0
CMF C S2



L46 ANSWER 44 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1984:494280 HCAPLUS
DN 101:94280
TI **Lubricant compositions**
PA Nippon Steel Chemical Co., Ltd., Japan; Nippon Steel Corp.
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC **C10M001-28; C10M001-54; C10M007-26**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 59011396	A2	19840120	JP 1982-120419	19820710

AB Extreme-**pressure** lubricants with improved lubricities contain a

graft-polymd. composite powder of a **solid lubricant** and vinyl monomer. Metal, P, B, S, and(or) Sb is present in the monomers as atoms and(or) in the **solid lubricant** as added powder for the polymn. Thus, gear **oil** (viscosity ISO VG 320) contg. 0.5 wt.% 100:25 powd. graphite-Ca **acrylate** copolymer [**91580-87-9**] (graft, as **solid lubricant**) was tested in a 4-ball tester at 80 kg and 280 rpm. The **friction** coeff. of the lubricant was 0.088 vs. 0.1 when the composite powder was replaced with powd. graphite.

ST extreme **pressure** lubricant; polymer graphite composite lubricant

IT Lubricating **oils**
(extreme-**pressure**, contg. graft graphite-calcium **acrylate** copolymer)

IT Lubricating **oil** additives
(extreme-**pressure**, graphite-calcium **acrylate** graft copolymer)

IT **91580-87-9**
RL: USES (Uses)
(graft, extreme-**pressure** additives, for lubricating **oils**)

IT **91580-87-9**
RL: USES (Uses)
(graft, extreme-**pressure** additives, for lubricating **oils**)

RN 91580-87-9 HCAPLUS

CN 2-Propenoic acid, calcium salt, polymer with graphite (9CI) (CA INDEX NAME)

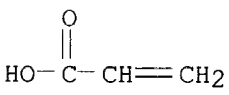
CM 1

CRN 7782-42-5
CMF C
CCI MNS
CDES 8:MN,GRAPHITE

C

CM 2

CRN 6292-01-9
CMF C3 H4 O2 . 1/2 Ca



● 1/2 Ca

L46 ANSWER 45 OF 52 HCAPLUS COPYRIGHT 2001 ACS

AN 1984:88515 HCAPLUS

DN 100:88515

TI **Oil**-based composition for cold rolling of aluminum

IN Balazs, Tibor; Dzsaja, Lajos; Fulop, Janos; Gabor, Laszlo; Gyongyossy, Lajos; Keresztessy, Zsolt; Keresztessy, Zsolt, Mrs.

PA Magyar Szenhidrogenipari Kutato-Fejleszto Intezet, Hung.; Tiszai Koolajipari Vallalat; Aluminuimipari Tervezo Vallalat (ALUTERV);

Szekesfehervari Konnyufemmu
SO Hung. Teljes, 17 pp.
CODEN: HUXXBU
DT Patent
LA Hungarian
IC **C10M001-26**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 56
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	HU 25938	O	19830829	HU 1978-NA1114	19781018
	HU 182909	B	19840328		
	CS 210037	B	19820129	CS 1979-6882	19791010
	DD 146467	Z	19810211	DD 1979-216230	19791015
	RO 78719	P	19821206	RO 1979-98953	19791016
	SU 1153836	A3	19850430	SU 1979-2832503	19791016
	PL 118347	B1	19810930	PL 1979-219012	19791017
PRAI	HU 1978-NA1114		19781018		

AB Cold rolling compns. for Al contain: deparaffinized base **oil** (b.p. 200-350.degree., pour point <0.degree., <0.1 wt.% S, <0.1 mg KOH/g acid no., 4-6 mm2/s viscosity at 20.degree., and <10 mg I/100 g I-Br mo.) and 1-10 wt.% additive compn. composed of .gtoreq.1 C8-18 aliph. alc. 10-75, an ester of a C8-18 aliph. alc. or its mixt. with C2-4 aliph. carbonic acid 20-60, and an alkanolamine ester or ester salt of formulas: R2R2N(CN2)xOR1 (I) or R2R3N+H(CH2)xOH R1O- [where R1 = SO3(CH2)yCH3 or PO[O(CH2)yCH3]O(CH2)CH3 (in which y and z are 8-18), R2 and R3 = H, C1-5 hydroxyalkyl or (CH2)xOEst, x = 1-3 (preferably 2) and Est = C8-20 satd. or unsatd. straight-chain carboxylic acid residue] 1-30 wt.%. The 3 components work synergistically. The rolling compn. also contains adhesion improver polymers. Thus, a compn. contg. base **oil** 95, polyisobutylene [9003-27-4] (mol. wt. 5000) 2, C8-18 aliph. alc. mixt. 1, C10-18-alkyl acetate 1.5, I [x = 2, R1 = SO3(CH2)12CH3, R2 = R3 = (CH2)2O2C(CH2)CH3] [88273-27-2] 0.5% gave good results in the 4-ball **friction** test and in the Amsler A 135 instrument test.

ST aluminum cold rolling lubricant; polyisobutylene lubricant aluminum cold rolling; alc ester lubricant aluminum cold rolling; alkanolamine ester lubricant aluminum cold rolling

IT **Lubricants**
(**oil**-base, **compn.** for, for cold rolling of aluminum)

IT Alcohols
RL: USES (Uses)
(C8-18, lubricants contg., for cold rolling of aluminum)

IT Aluminum alloy, base
RL: USES (Uses)
(cold rolling of, **oil**-based compn. for)

IT **7429-90-5P**, preparation
RL: PREP (Preparation)
(cold rolling of, **oil**-based compn. for)

IT 64-19-7D, C8-18 alkyl esters 79-09-4D, C12-14 aliph. esters 79-41-4D, alkyl esters, polymers 112-53-8 3724-61-6 4568-28-9 7664-38-2D, C10-19 mixed alkyl esters 9003-27-4 13961-86-9 **25986-80-5** 88262-53-7 88262-54-8 88262-55-9 88273-27-2
RL: USES (Uses)
(lubricants contg., for cold rolling of aluminum)

IT **7429-90-5P**, preparation
RL: PREP (Preparation)
(cold rolling of, **oil**-based compn. for)

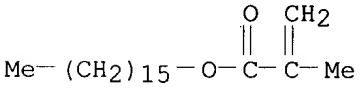
RN 7429-90-5 HCAPLUS
CN Aluminum (8CI, 9CI) (CA INDEX NAME)

Al

IT **25986-80-5**
RL: USES (Uses)
(lubricants contg., for cold rolling of aluminum)
RN 25986-80-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, hexadecyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2495-27-4
CMF C20 H38 O2



L46 ANSWER 46 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1983:542886 HCAPLUS
DN 99:142886
TI **Lubricant composition**
PA Nippon Steel Chemical Co., Ltd., Japan; Nippon Steel Corp.
SO Jpn. Kokai Tokkyo Koho, 3 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC **C10M007-04; C10M007-14**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 38
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 58049800	A2	19830324	JP 1981-148325	19810918
JP 62034359	B4	19870727		

AB Lubricants for high-temp. metalworking contain powd. graphite 50-94, a vinyl copolymer 5-40, a hardening agent (e.g., melamine [108-78-1]) 0.1-10, and a dispersing agent (e.g., a polysaccharide) 0.2-10 wt.%. Thus, powd. graphite 77.8, **acrylic** acid-Bu **acrylate** copolymer [**25119-83-9**] 16.7, melamine 1.6, and a polysaccharide 3.9 wt.% were mixed to obtain a metalworking lubricant exhibiting a **friction** coeff. (at 800.degree.) of 0.048, vs. 0.062 when the lubricant did not contain melamine.
ST lubricant metalworking **acrylic** polymer graphite; melamine polysaccharide metalworking lubricant additive
IT Polysaccharides, uses and miscellaneous
RL: USES (Uses)
(in metalworking lubricants based on **acrylic** polymers and graphite)
IT Lubricants
(metalworking, **acrylic** polymer-graphite mixts., contg. melamine and polysaccharides)
IT 108-78-1, occurrence
RL: OCCU (Occurrence)
(in metalworking lubricants based on **acrylic** polymers and graphite)
IT **7782-42-5**, uses and miscellaneous **25119-83-9**
RL: USES (Uses)
(lubricants contg., for metalworking)

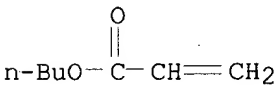
IT **7782-42-5**, uses and miscellaneous **25119-83-9**
RL: USES (Uses)
(lubricants contg., for metalworking)
RN 7782-42-5 HCAPLUS
CN Graphite (8CI, 9CI) (CA INDEX NAME)

C

RN 25119-83-9 HCAPLUS
CN 2-Propenoic acid, polymer with butyl 2-propenoate (9CI) (CA INDEX NAME)

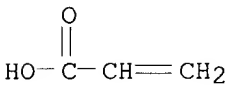
CM 1

CRN 141-32-2
CMF C7 H12 O2



CM 2

CRN 79-10-7
CMF C3 H4 O2



L46 ANSWER 47 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1980:552983 HCAPLUS
DN 93:152983
TI Lubricant for cold working of metals by **pressure**
IN Belosevich, V. K.; Bezobrazov, V. N.; Oreshnikova, T. V.; Pavlenko, L. M.; Kurchik, N. N.; Ezhov, V. Ya.; Vituleva, L. A.; Razumov, V. V.; Ivanov, N. D.; et al.
PA Scientific-Research Institute of Autotractor Materials, USSR
SO U.S.S.R.
From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1980, (22), 154.
CODEN: URXXAF
DT Patent
LA Russian
IC **C10M001-26; C10M001-30**
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
FAN.CNT 1

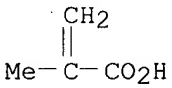
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 740817	T	19800615	SU 1978-2623245	19780602

AB The **friction** force was decreased and surface quality was improved by inclusion of 10-20 vol.% chlorinated paraffin and 1.5-5.0 vol.% of the product of extn. of oxidized natural fats or oxidized solid hydrocarbons with a hydrocarbon solvent in a metalworking lubricant contg. Zn dialkyl dithiophosphate 7-20, **polymethacrylate** 5-15, and mineral **oil** to make 100 vol.%.
ST metalworking lubricant cold; paraffin chloro metalworking lubricant; oxidn fat metalworking lubricant; hydrocarbon oxidn metalworking lubricant

IT Fats, reactions
Hydrocarbons, reactions
RL: RCT (Reactant)
(oxidn. of, exts. of, metalworking **lubricants** contg., **compn.** and properties of)
IT Alkanes, uses and miscellaneous
RL: USES (Uses)
(chloro, metalworking **lubricants** contg., **compn.** and properties of)
IT **Lubricants**
(metalworking, for cold forming, **compn.** and properties of)
IT 15834-33-0D, dialkyl esters, zinc salts **25087-26-7D**, derivs. polymers
RL: USES (Uses)
(metalworking **lubricants** contg., **compn.** and properties of)
IT **25087-26-7D**, derivs. polymers
RL: USES (Uses)
(metalworking **lubricants** contg., **compn.** and properties of)
RN 25087-26-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-41-4
CMF C4 H6 O2

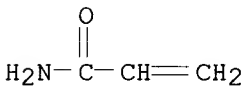


L46 ANSWER 48 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1980:449975 HCAPLUS
DN 93:49975
TI Lubricating properties of polymer-containing cutting fluids with various glycerol contents
AU Proskuryakov, Yu. G.; Isaev, V. M.
CS USSR
SO Vestn. Mashinostr. (1980), (3), 42-4
CODEN: VMASAV; ISSN: 0042-4633
DT Journal
LA Russian
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 37
AB The effect of **lubricant compn.** on **friction** coeff. and crit. **pressure** (the **pressure** at which all **lubricant** is extruded from metal surfaces) of cutting tools and rollers in machining and shaping steel is discussed. The optimum compn. was glycerol [56-81-5] 0.4-1.0, diethylene glycol [111-46-6] 0.15-0.3, **polyacrylamide** [**9003-05-8**] 0.0258 triethanolamine [102-71-6] 0.001, BzONa [532-32-1] 0.2, KPO3 0.05, urotropine 0.4%, soap 0-0.03, and **antioxidant** 0-0.05 vol.% in **water**.
ST rolling steel lubricant optimization; cutting fluid optimization; **polyacrylamide** lubricant steelworking
IT Lubricants
(**polyacrylamide** emulsions, for machining and rolling steel, optimization of)
IT Lubricants
(cutting fluids, **polyacrylamide** emulsions, optimization of)
IT Lubricating **oils**

(cutting **oils**, emulsions, **polyacrylamide**, optimization of)
IT 56-81-5, occurrence 102-71-6, occurrence 111-46-6, occurrence 532-32-1 **9003-05-8**
RL: OCCU (Occurrence)
(in lubricants and cutting fluids, optimization of)
IT **9003-05-8**
RL: OCCU (Occurrence)
(in lubricants and cutting fluids, optimization of)
RN 9003-05-8 HCAPLUS
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-06-1
CMF C3 H5 N O



L46 ANSWER 49 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1978:549351 HCAPLUS
DN 89:149351
TI Improving the lubricating properties of **solid lubricants** and solid lubricating **compositions**
PA Dow Corning G.m.b.H., Ger.
SO Fr. Demande, 19 pp.
CODEN: FRXXBL
DT Patent
LA French
IC **C10M007-00**
CC 51-8 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 37
FAN.CNT 2

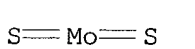
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2345510	A1	19771021	FR 1976-20477	19760705
	FR 2345510	B1	19820611		
	DE 2530002	A1	19770127	DE 1975-2530002	19750704
PRAI	DE 1975-2530002		19750704		

AB The lubricating properties of **solid lubricants** are improved by grafting with .ltoreq.7% reactive org. polymer. Thus, ball milling 20 g MoS2 with 345 mL 30% CH2Cl2 soln. of iso-Bu vinyl ether 24 h in the absence of **H2O** gives a graft polymer [67784-05-8] with **friction** .apprx.30 kg under a 2000 kg load, compared with .apprx.60 for ungrafted MoS2.
ST lubricant solid graft polymer; molybdenum disulfide grafted lubricant; vinyl ether grafted lubricant
IT Polybenzyls
Polymers, uses and miscellaneous
Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(molybdenum disulfide grafted by, lubricants with reduced **friction**)
IT Lubricants
(polymer-grafted molybdenum disulfide, with reduced **friction**)
IT 110-86-1D, derivs., polymers with molybdenum disulfide **63946-39-4** 63946-45-2 67784-05-8 67784-06-9 67784-07-0
RL: USES (Uses)
(graft, lubricants with reduced **friction**)

IT **1317-33-5D**, siloxane-grafted
RL: USES (Uses)
(lubricants with reduced **friction**)
IT **63946-39-4**
RL: USES (Uses)
(graft, lubricants with reduced **friction**)
RN 63946-39-4 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with molybdenum sulfide (MoS2) (9CI) (CA INDEX NAME)

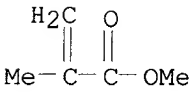
CM 1

CRN 1317-33-5
CMF Mo S2

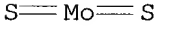


CM 2

CRN 80-62-6
CMF C5 H8 O2



IT **1317-33-5D**, siloxane-grafted
RL: USES (Uses)
(lubricants with reduced **friction**)
RN 1317-33-5 HCAPLUS
CN Molybdenum sulfide (MoS2) (8CI, 9CI) (CA INDEX NAME)



L46 ANSWER 50 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1975:142547 HCAPLUS
DN 82:142547
TI **Water**-white, adjustable polymer latexes as **aqueous** cold **lubricant compositions**
IN Landau, Helmut; Mayer, Norbert
PA Farbwerke Hoechst A.-G.
SO Ger. Offen., 11 pp.
CODEN: GWXXBX
DT Patent
LA German
IC **C10M**
CC 51-7 (Fossil **Fuels**, Derivatives, and Related Products)
Section cross-reference(s): 37
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2318131	A1	19741024	DE 1973-2318131	19730411
	NL 7404693	A	19741015	NL 1974-4693	19740405
	GB 1470826	A	19770421	GB 1974-15250	19740405
	IT 1009793	A	19761220	IT 1974-21177	19740409
	FR 2225507	A1	19741108	FR 1974-12769	19740411

PRAI DE 1973-2318086 19730411
DE 1973-2318131 19730411

AB **Aq.** cold lubricants for metal working consist of 0.01-20 wt.% of polymer latexes of **acrylates** contg. amine compds., sometimes mixed with emulsions. Thus, in a Reichert test or 4-ball app., the metal removal under a 100-kg load was detd. with various compns. Thus, polymer [**25035-88-5**] prepd. from Me **methacrylate** (I) 55, Bu **acrylate** (II) 5, Et **acrylate** (III) 5, and **methacrylic** acid (IV) 35% in the presence of 2% dodecyl mercaptan (V), at 1% **aq.** soln. contg. 3% emulsifier (triethanolamine, salt of an alkyl sulfate), operated under 30 kg load for 100 m to give **pressure** 340 kg/cm2. A transparent **lubricant** contg. 5% of the above **compn.**, tested on a 4-ball app., operating at 100 kg for 1 min, gave coeff. of **friction** 0.04 and scar diam. 0.592 mm.

ST **acrylate** polymer cutting **oil**

IT Lubricating **oil** additives
(**acrylic** latexes, for cutting **oils**)

IT Lubricating **oils**
(cutting **oils**, **acrylic** latexes)

IT Polyoxyalkylenes
RL: USES (Uses)
(ether sulfate ammonium salts, emulsifiers for **acrylic** latex cutting **oils**)

IT Lubricants
(for metal working, contg. **acrylic** latexes)

IT Emulsifying agents
(triethanolamine alkyl sulfate derivs., for **acrylic** latex cutting **oils**)

IT Ethanol, 2,2',2''-nitrilotris-, alkyl sulfate derivs.
RL: USES (Uses)
(emulsifiers, for **acrylic** latex cutting **oils**)

IT **25035-88-5**
RL: USES (Uses)
(cutting **oils** contg.)

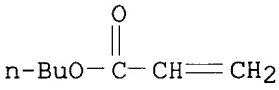
IT **25035-88-5**
RL: USES (Uses)
(cutting **oils** contg.)

RN 25035-88-5 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, polymer with butyl 2-propenoate, ethyl 2-propenoate and methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

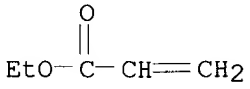
CM 1

CRN 141-32-2
CMF C7 H12 O2



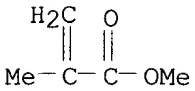
CM 2

CRN 140-88-5
CMF C5 H8 O2



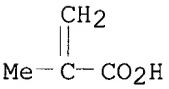
CM 3

CRN 80-62-6
CMF C5 H8 O2



CM 4

CRN 79-41-4
CMF C4 H6 O2



L46 ANSWER 51 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1968:420938 HCAPLUS
DN 69:20938
TI Lubricants containing p-polyphenyl
IN McMahon, Matthew A., Jr.; Chafetz, Harry; Coppoc, William J.
PA Texaco Inc.
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
NCL 252042100
CC 51 (Petroleum, Petroleum Derivatives, and Related Products)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3384588	A	19680521	US 1964-411720	19641117

AB Poly-p-phenylene (I) is added to **lubricant compns.** to improve their high **pressure** properties. Thus, a slurry of 396 g. AlCl3 and 399 g. anhyd. CuCl2 in 1500 ml. dry benzene was refluxed 2 hrs., filtered, and the residue washed with **aq.** HCl until the filtrate was colorless and then washed with **water** until neutral. The remaining residue was then dried in vacuo, giving 80 g. insol., brown-black I. I was tested as a lubricant additive using a mineral **oil** with viscosity 310 SUS at 100.degree.F., and contg. 1% wt. vinylpyrrolidone-stearyl **methacrylatelauryl methacrylate** -Bu **methacrylate** polymer. The compns. were tested by detg. the Mean Hertz Load Test values and the av. scar diam. in the 4-Ball Wear Test. The results are shown in the table. I was also used as an additive for poly(dimethylsiloxane) synthetic lubricating **oil** and Li **greases**. [TABLE OMITTED] When tested as a dry lubricant, I showed the same order of coeff. of **friction** as MoS2 and poly(tetrafluoroethylene) (Teflon).
ST polyphenylene lubricants; lubricants polyphenylene; high **pressure** lubricants
IT Lubricating **grease** additives
Lubricating **oil** additives
(extreme-**pressure** additive, poly(p-phenylene) as)
IT 25190-62-9

RL: USES (Uses)
(as extreme-**pressure** additive for lubricating **oils** and lubricating **greases**)

L46 ANSWER 52 OF 52 HCAPLUS COPYRIGHT 2001 ACS
AN 1962:61778 HCAPLUS
DN 56:61778
OREF 56:11889a-d
TI The effect of **lubricant** viscosity and **composition** on engine. **friction** and bearing wear. II
AU Okrent, E. H.
CS Esso Research & Eng. Co., Linden, NJ
SO ASLE (Am. Soc. Lubrication Engrs.) Trans. (1961), 4, 257-62
DT Journal
LA Unavailable
CC 52 (Petroleum and Petroleum Derivatives)
AB cf. CA 55, 23989b. The addn. of polyisobutylene or poly(**methylmethacrylate**) decreases bearing wear and engine **friction**. Varying amts. of 1 of 2 polyisobutylenes (PIB) (0.31 and 0.5 intrinsic viscosity in toluene) or 3 poly(**methylmethacrylates**) (PMA) (0.31, 0.55, and 1.2 intrinsic viscosity) were added to mineral **oils** to obtain a final blend with a viscosity of 12.4 centistokes at 210.degree.F. Addn. of either PIB decreases the bearing wear rate from 1.4 mg./hr. (0 wt. % PIB) to a plateau of 0.85 mg./hr. at 6 wt. % PIB. The addn. of PMA shows a similar decrease to a plateau. The addn. of 2 wt. % of the lowest-mol.-wt. PMA actually increases bearing wear (2.8 mg./hr. vs. 1.4 mg./hr. at 0 concn.). Further addn. of low-mol.-wt. PMA reduces bearing wear to 0.4 mg./hr. (at approx. 10 wt. % concn.). The higher-mol.-wt. PMA decrease bearing wear but their effect is less marked with plateau values of about 0.96 and 0.8 mg./hr. for the 0.5 and 1.2 intrinsic viscosity polymers, resp. Analysis of the data indicates that polymer effects are related to the viscoelastic nature of the **oil**. The addn. of 4 vol. % of **detergent** (mixt. of metal sulfonate, metal phenate, and P2S2-treated hydrocarbon) to a mineral **oil** increases bearing wear (2.79 vs. 1.4 mg./hr. for the pure mineral **oil**). Addn. of 4 vol. % of the surfactant mixt. to **oils** contg. polymers increased the wear rate from 0.09 to 0.29 reg./hr. at the 1 reg./hr, level. **Friction** increases more when **detergent** is added to **oils** contg, polymers than to mineral **oil**. This suggests that, in addn. to the bulk properties of the added polymer, surface properties of the polymer affect lubricating characteristics.

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=> D QUE L22

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L22        86455 SEA FILE=REGISTRY RAN=(,114859-25-5) ABB=ON  L19 OR L19
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=> D QUE L56

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                 I OR 124448-23-3/BI OR 12597-70-5/BI OR 12597-71-6/BI OR
                 12684-19-4/BI OR 12704-93-7/BI OR 127289-34-3/BI OR 1303-96-4/B
                 I OR 1314-13-2/BI OR 1317-33-5/BI OR 1319-46-6/BI OR 1327-33-9/
                 BI OR 14807-96-6/BI OR 150523-07-2/BI OR 159074-52-9/BI OR
                 186270-48-4/BI OR 186270-50-8/BI OR 186270-52-0/BI OR 25014-41-
                 9/BI OR 52292-17-8/BI OR 57175-99-2/BI OR 598-63-0/BI OR
                 64176-75-6/BI OR 7429-90-5/BI OR 7439-92-1/BI OR 7439-97-6/BI
                 OR 7440-22-4/BI OR 7440-28-0/BI OR 7440-29-1/BI OR 7440-31-5/BI
                  OR 7440-44-0/BI OR 7440-50-8/BI OR 7440-55-3/BI OR 7440-57-5/B
                 I OR 7440-74-6/BI OR 7646-79-9/BI OR 77-90-7/BI OR 7779-90-0/BI
                  OR 7782-42-5/BI OR 7790-80-9/BI OR 9003-05-8/BI)
L5             9 SEA FILE=REGISTRY ABB=ON  L4 AND PMS/CI
L6             2 SEA FILE=REGISTRY ABB=ON  L5 AND 1-4/N
L7             6 SEA FILE=REGISTRY ABB=ON  AQUASORB ?/CN
L8             3 SEA FILE=REGISTRY ABB=ON  (AQUASTORE/CN OR "AQUASTORE B"/CN OR
                 "AQUASTORE F"/CN)
L9             1 SEA FILE=REGISTRY ABB=ON  "TERRA-SORB GB"/CN
L10            3 SEA FILE=REGISTRY ABB=ON  ("WATER LOCK SUPERABSORBENT POLYMER
                 A 100"/CN OR "WATER LOCK SUPERABSORBENT POLYMER A 200"/CN OR
                 "WATER LOCK SUPERABSORBENT POLYMER G 100"/CN)
L11            1 SEA FILE=REGISTRY ABB=ON  "SGP 502S"/CN
L12            4 SEA FILE=REGISTRY ABB=ON  STOCKOSORB ?/CN
L13            1 SEA FILE=REGISTRY ABB=ON  "FAVOR CA 100"/CN
L14            5 SEA FILE=REGISTRY ABB=ON  ARIDALL ?/CN
L15           34 SEA FILE=REGISTRY ABB=ON  SANWET ?/CN
L16            8 SEA FILE=REGISTRY ABB=ON  ALCOSORB ?/CN
L17           44 SEA FILE=REGISTRY ABB=ON  L4 NOT L6
L18          103 SEA FILE=REGISTRY ABB=ON  L17 OR (L7 OR L8 OR L9 OR L10 OR L11
                 OR L12 OR L13 OR L14 OR L15 OR L16)
L19       246454 SEA FILE=REGISTRY ABB=ON  PACR/PCT
L20       246454 SEA FILE=REGISTRY ABB=ON  L19 OR L19
L21        80000 SEA FILE=REGISTRY RAN=(163035-34-5,) ABB=ON  L19 OR L19
L22        86455 SEA FILE=REGISTRY RAN=(,114859-25-5) ABB=ON  L19 OR L19
L23        79999 SEA FILE=REGISTRY ABB=ON  L20 NOT (L21 OR L22)
L24        29277 SEA FILE=HCAPLUS ABB=ON  L21
L25       270857 SEA FILE=HCAPLUS ABB=ON  L22
L26        38382 SEA FILE=HCAPLUS ABB=ON  L23
L27      1183207 SEA FILE=HCAPLUS ABB=ON  L18
L28        32138 SEA FILE=HCAPLUS ABB=ON  (L24 OR L25 OR L26) AND L27
L32         1213 SEA FILE=HCAPLUS ABB=ON  ?ACRYL? AND LUBRICANT?(S)(COMPOSITION?
                  OR COMPNS)
L33          864 SEA FILE=HCAPLUS ABB=ON  (L24 OR L25 OR L26) AND LUBRICANT?(S)(
                 COMPOSITION? OR COMPNS)
L34          132 SEA FILE=HCAPLUS ABB=ON  (L32 OR L33) AND FRICTION?
L35           27 SEA FILE=HCAPLUS ABB=ON  L34 AND  L28
L36           55 SEA FILE=HCAPLUS ABB=ON  L34 AND MOA/RL
L37           37 SEA FILE=HCAPLUS ABB=ON  L34 AND (SOLID(W)LUBRICANT? OR
                 ANTIOXID? OR RUST?(3A)INHIBIT? OR ANTIWEAR? OR DETERGENT? OR
                 DISPERSANT? OR PRESSURE OR FOAM?(3A)INHIBIT?)
L38            1 SEA FILE=HCAPLUS ABB=ON  L34 AND SUPERABSORB?
L39           92 SEA FILE=HCAPLUS ABB=ON  (L35 OR L36 OR L37 OR L38)
L40           24 SEA FILE=HCAPLUS ABB=ON  L39 AND FUEL?/SC,SX
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L41          21 SEA FILE=HCAPLUS ABB=ON  L39 AND (WATER? OR H2O OR AQ OR
                AQUEOUS)
L42          33 SEA FILE=HCAPLUS ABB=ON  L39 AND (OIL# OR GREASE#)
L43           1 SEA FILE=HCAPLUS ABB=ON  L39 AND (SLID? OR MOV?)(3A)SURFACE?
L44          51 SEA FILE=HCAPLUS ABB=ON  (L40 OR L41 OR L42 OR L43)
L45          24 SEA FILE=HCAPLUS ABB=ON  L39 AND C10M?/IC
L46          52 SEA FILE=HCAPLUS ABB=ON  L44 OR L45
L47             SEL  L46 1- PN APPS :     265 TERMS
L48          56 SEA FILE=WPIDS ABB=ON  L47
L49        3998 SEA FILE=WPIDS ABB=ON  LUBRICANT?(4A)(COMPOSITION? OR COMPNS)
L50         623 SEA FILE=WPIDS ABB=ON  L49 AND FRICTION?
L51          30 SEA FILE=WPIDS ABB=ON  L50 AND ?ACRYL?
L52          29 SEA FILE=WPIDS ABB=ON  (L48 OR L51) NOT L48
L53          19 SEA FILE=WPIDS ABB=ON  L52 AND C10M?/IC
L54          10 SEA FILE=WPIDS ABB=ON  L52 NOT L53
L55           3 SEA FILE=WPIDS ABB=ON  L54 AND (PISTON? OR CONVEY?)
L56          22 SEA FILE=WPIDS ABB=ON  L53 OR L55
```

=> D L56 ALL 1-22

L56 ANSWER 1 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-258689 [23] WPIDS
DNC C2000-079254
TI Composition useful as transmission fluids comprises lubricant oil, shear stable viscosity modifier, overbased metal salt, phosphorus compound and at least two **friction** modifiers.
DC A13 A14 A97 E19 H07
IN SUMIEJSKI, J L; WARD, W C
PA (LUBR) LUBRIZOL CORP
CYC 29
PI EP 987311 A2 20000322 (200023)* EN 18p C10M167-00 <--
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
AU 9947414 A 20000323 (200025) C10M125-10 <--
JP 2000087068 A 20000328 (200026) 19p C10M163-00 <--
CA 2282059 A1 20000314 (200035) EN C10M163-00 <--
US 6103673 A 20000815 (200041) C10M141-12 <--
ADT EP 987311 A2 EP 1999-307226 19990913; AU 9947414 A AU 1999-47414 19990907; JP 2000087068 A JP 1999-261183 19990914; CA 2282059 A1 CA 1999-2282059 19990908; US 6103673 A US 1998-152878 19980914
PRAI US 1998-152878 19980914
IC ICM **C10M125-10; C10M141-12; C10M163-00; C10M167-00**
ICS **C10M125-26; C10M129-32; C10M129-40; C10M133-46; C10M141-10**
ICI C10N010:02, C10N010:04, C10N020:00, C10N020:02, C10N030:04, C10N030:06, C10N040:04; C10M125:24; C10M129:40; C10M133:08; C10M133:44; C10M137:04; C10M137:06; C10M137:10; C10M139:00; C10M159:16; C10M159:22; C10M159:24; C10M163-00
AB EP 987311 A UPAB: 20000516
NOVELTY - In the composition, the total amount of the **friction** modifiers is limited to those amounts which provide a metal-to-metal coefficient of **friction** of at least about 0.120 as measured at 110 degrees by ASTM-G-77, using the **composition** as a **lubricant**.

DETAILED DESCRIPTION - A composition comprises (a) a major amount of an oil of lubricating viscosity; (b) a viscosity modifying amount of a shear stable viscosity modifier; (c) at least about 0.1 percent by weight of an overbased metal salt, where the overbase salt contributes about 0.5 to about 10 Total Base Number to the composition; (d) at least 0.1 percent by weight of at least one phosphorus compound and (e) about 0.1 to 0.45 percent by weight of a combination of at least two **friction**

modifiers, at least one of the **friction** modifiers being selected from zinc salts of fatty acids having at least 10 carbon atoms, hydrocarbyl imidazolines containing at least 12 carbon atoms in the hydrocarbyl group, and borated epoxides; the amount of the **friction** modifier from the group being at least about 0.03 percent by weight of the composition. An INDEPENDENT CLAIM is included for a concentrate.

USE - Used as lubricating oils and greases in industrial applications and automotive engines, transmissions and axles.

Dwg.0/0

FS CPI
FA AB; DCN
MC CPI: A04-F01A; A12-W02A; E05-B01; E05-G09A; E05-G09B; E05-L03C; E05-L03D; E07-A03A; E07-D09C; E10-A09B4; E10-A09B5; E10-B03B; E31-Q04; E31-Q05; H07-A; H07-G09

L56 ANSWER 2 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 2000-116952 [10] WPIDS
DNC C2000-035809
TI Dispersants for modifying dispersancy or viscometric properties of fluid for use in **lubricant** or fuel **compositions**.
DC A12 A95 A97 H06 H07
IN COOLBAUGH, T S; LOVELESS, F C; MARLIN, J E; MATTHEWS, D N; STENSLER, K G
PA (MOBI) MOBIL OIL CORP
CYC 29
PI WO 9967349 A1 19991229 (200010)* EN 67p C10M155-04 <--
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: AU BR CA CN IN JP KR MX NO RU SG
AU 9943137 A 20000110 (200025) C10M155-04 <--
ADT WO 9967349 A1 WO 1999-US11561 19990526; AU 9943137 A AU 1999-43137 19990526
FDT AU 9943137 A Based on WO 9967349
PRAI US 1998-102681 19980623
IC ICM **C10M155-04**
ICS C10L001-18; C10L001-22; C10L001-30
AB WO 9967349 A UPAB: 20000228

NOVELTY - The dispersant having polymeric structures which permit highly selective control of the degree of unsaturation and consequent functionalization comprises a copolymer of two different conjugated dienes which have been hydrogenated, functionalized, optionally modified and post treated.

DETAILED DESCRIPTION - The dispersant substance for modifying the dispersancy or viscometric properties of fluid comprises a copolymer of two conjugated dienes. The first conjugated diene comprises one or more substituted conjugated diene having 5C atoms of formula (I).

R1-C(R2)=C(R3)C(R4)=C(R5)-R6 (I)

R1-R6 = H or a hydrocarbyl group.

At least one of R1-R6 is a hydrocarbyl group and after polymerization, the unsaturation of the polymerized first conjugated diene is of formula (II).

(RI-C(RII)=C(RIV)-RIII (II)

RI-RIII = H or hydrocarbyl group.

Either both RI and RII are hydrocarbyl groups or both RIII and RIV are hydrocarbyl groups. The second conjugated diene comprises a less substituted conjugated diene different from the first diene and has at least 4C atoms of formula (III).

R7-(R8)=C(R9)-C(R10)=C(R11)-R12 (III)

R7-R12 = as R1-R6.

After polymerization, the unsaturation of the polymerized second conjugated diene is of formula (IV).

RV-C(RVI)=C(RVII)-RVIII (IV)

RV-RVIII = as RI-RIV.

At least one of RV-RVIII is H and at least one of RVII or RVIII is a hydrocarbyl group. The copolymer has been functionalized by (i)

hydrogenating the copolymer, (ii) functionalizing the hydrogenated copolymer to provide a functionalized copolymer having at least one polar functional group or (iii) post treating the functionalized copolymer with a post treating agent.

INDEPENDENT CLAIMS are also included for:

(A) modifying the dispersancy or viscometric properties of a fluid comprising admixing with a fluid of dispersant substance; and

(B) a dispersant-modified fluid having modified dispersancy or viscometric properties.

USE - The dispersant is used for modifying the dispersancy or viscometric properties of fluids. The dispersant can be employed in any **lubricant** or fuel **composition** to control the deposition of sludge particles. The compound is also used as lubricant additives such as adhesives, sealants and impact modifiers.

ADVANTAGE - The dispersant substance provides improved engine performance, controlled molecular weight, controlled molecular weight distribution, controlled polymer structure, variable/controlled amounts and distribution of functionality, superior thermal stability, potentially permitting reduced treat levels and yielding benefits such as improved viscometric properties.

Dwg.0/0

FS CPI
FA AB
MC CPI: A10-E01; A12-T03A; A12-W02A; A12-W12C; H06-D03; H07-G03

L56 ANSWER 3 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1998-345964 [30] WPIDS
DNC C1998-106694
TI **Lubricant composition** for machine tool slides - based on paraffinic or naphthenic mineral oil, and various additives.
DC A97 H07
IN PETROF, M; POPOIU, E; RADU, C; SECAREANU, A
PA (ICER-N) ICERP SA
CYC 1
PI RO 112751 B 19971230 (199830)* C10M101-02 <--
ADT RO 112751 B RO 1995-1039 19950526
PRAI RO 1995-1039 19950526
IC ICM **C10M101-02**
AB RO 112751 B UPAB: 19980730

A **lubricant composition** for machine tool slides contains (all wt.%): 86-95 paraffinic or naphthenic mineral oil having a viscosity of 27-165 cSt at 40 deg. C temperature; 4-11 **friction** modifying agent of oxidised vegetable oil type; 0.003-0.05 poly-iso-butene type additive to improve lubricant film cohesion, and optionally, 0.7-1 antioxidant of di:tertiary-butyl-para-cresol type, and respectively: 0.7-1.2 wear protection additive of tri:cresyl-phosphate type; 0.1-0.3 **polymethacrylate** type flow-point depressant, 0.03-0.05 rust-preventative as an organic-acid-alkylate, insoluble in water; 0.5-1.5 multifunctional additive containing maximum 8.8% Zn, and maximum 8% P, and containing 0.001-0.002 methyl-silicone additive.

FS CPI
FA AB
MC CPI: A04-F01A; A12-W02A; H07-A; H07-F

L56 ANSWER 4 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1996-233040 [24] WPIDS
DNC C1996-073756
TI Biodegradable chain-saw **lubricant compsn.** - contg. maleic anhydride ester or vegetable oil, refined vegetable oil, natural grease based multi functional additive, **polymethacrylate** based drop pt. improving cpd., etc..
DC A97 H07
IN BALADINCZ, J; DOBEST, E; KALLO, I; LENTI, M; VALASEK, I
PA (MOLM-N) MOL MAGYAR OLAJ ES GAZIPARI RT

CYC 1
PI HU 210408 B 19950728 (199624)* 1p C10M169-04 <--
ADT HU 210408 B HU 1993-3126 19931103
PRAI HU 1993-3126 19931103
IC ICM **C10M169-04**
AB HU 210408 B UPAB: 19960618
A biologically degradable chain-saw **lubricant compsn.** based on vegetable oil contains (all wt. %): 85.0-95.0 ester type oil prepd. from a vegetable oil, contg. 1.0-5.0 % stearic acid, 5-10 % linolenic acid and erucic-acid free, and a 4-12 C unsatd. di:carboxylic acid-anhydride pref. maleic anhydride, in 1:(0.1-1.6) molar ratio. 1.0-5.0 wetting agent (mol. wt.: 6000-8000) prepd. from natural greases, modified by multi-hydroxy-alcohols or poly-oxy-alkylene gps. 0.1-1.5 complex action zinc-free, **friction** reducing, increased pressure resistant, and corrosion preventing additive. 0-1.0 drop pt. temp. increasing poly-**methacrylate** based additive 0-10.0 refined vegetable oil and 0-10 ppm oil. sol. colourant.
Dwg.0/0
FS CPI
FA AB
MC CPI: A04-F06E3; A12-W02A; H07-A

L56 ANSWER 5 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1994-354911 [44] WPIDS
DNC C1994-161926
TI Low **friction lubricant** coating **compsn.** for engine **pistons** - contains high strength heat resisting binder, solid lubricant and modifier..
DC A12 A82 G02
PA (TAKA-N) TAKATA CORP; (TOYT) TOYOTA JIDOSHA KK
CYC 1
PI JP 06279708 A 19941004 (199444)* 6p C09D005-00
ADT JP 06279708 A JP 1993-68372 19930326
PRAI JP 1993-68372 19930326
IC ICM C09D005-00
ICS C09D171-02; C09D201-00
AB JP 06279708 A UPAB: 19941223
Lubricant paints contain a high strength heat-resisting binder 100 pts wt, a solid lubricant 5-300 pts wt and a modifier 5-100 pts wt.
The modifier consists of vinyl resins, polybutadiene, polyethyleneglycol **acrylate** and a plasticiser. The binder is eg epoxy-based binders, bismaleimide/triazine-based binders, and xylene-based binders. Pref solid lubricant is fluorine cpd, pref having the particle size of up to 10 micron m.
USE/ADVANTAGE - Used as coating agents for **pistons** of engines and other lubricating material, providing **friction** -resisting coat film having low **friction** coefft because of the improved adhesion (shear adhesiveness) to substrate.
Dwg.0/0
FS CPI
FA AB; GI
MC CPI: A08-M03; A12-H10; G02-A05D

L56 ANSWER 6 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1993-366282 [46] WPIDS
DNC C1993-162816
TI Lubricant for sealing profiled joints - contains **polyacrylamide** or carboxymethyl cellulose and plastic soap lubricant and has increased sealing effect.
DC A11 A14 A97 H01 H07
IN KALASHNIKOV, YU T
PA (KALA-I) KALASHNIKOV YU T
CYC 1
PI SU 1772143 A1 19921030 (199346)* 5p C10M169-04 <--

ADT SU 1772143 A1 SU 1990-4899358 19901102
PRAI SU 1990-4899358 19901102
IC ICM **C10M169-04**
ICS **C10M145-40**
ICI C10N040:34; C10M117:02, C10M145-40, C10M149:18
AB SU 1772143 A UPAB: 19940103
The **lubricant compsn.** contains in wt.%):
polyacrylamide or carboxymethyl cellulose 20-30 and soap-plastic lubricant 70-80.

Granulated **polyacrylamide** has granule dia. 3-7 mm, M.Wt. (3-5) x 10 power 6, thermal resistance 180 deg. C and density 1.08-1.12 g/cc. Carboxymethyl cellulose is obtd. by reacting alkali cellulose with resistance 160 deg. C, density 1.59-1.70 g/cc and moisture content up to 10-15%. Soap-plastic lubricant can be Solidol Zh, with working range (-20) - (+65) deg. C, or Press-Solidol Zh, for manual lubricating of **friction** pairs working at temp. below (-20) deg. C. Graphite lubricant USsA can also be used.

Lubricant compsn. is prepd. by loading **lubricant** component into mixer and adding **polyacrylamide**, stepwise, with continuous mixing, over 15-20 min.. The temp. of prepn. has to be at least 20 deg. C and mixer can also be optionally heated to 77 deg. C in case of use of graphite lubricant and to 75 deg. C in case of use of Solidol Zh. Tests show that proposed **lubricant compsn.** ensures 100% hermeticity of profiled joints and its antifriction properties are comparable to those of the known lubricant.

USE/ADVANTAGE - Lubricant can be used for sealing of profiled joints of casing string, flange-type joints of pipelines etc. and provides 100% hermeticity. Bul.40/30.10.92.
Dwg.0/0
FS CPI
FA AB
MC CPI: A03-A04A; A04-D04A; A12-S09A; A12-W02; H07-A

L56 ANSWER 7 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1990-302955 [40] WPIDS
DNC C1990-130989
TI Lubricant for plunger tip used in aluminium casting - contg. base mineral oil, and oils, fats, fatty acid ester and/or white solid lubricant e.g. mica.
DC H07 M22
PA (YUSI) YUSHIRO CO
CYC 1
PI JP 02215894 A 19900828 (199040)*
JP 06076587 B2 19940928 (199437) 4p C10M111-02 <--
ADT JP 02215894 A JP 1989-36034 19890217; JP 06076587 B2 JP 1989-36034 19890217
FDT JP 06076587 B2 Based on JP 02215894
PRAI JP 1989-36034 19890217
IC **C10M101-02; C10M103-06; C10M105-32; C10M111-02;** C10N020-02; C10N040-24
ICM **C10M111-02**
ICS **C10M101-02; C10M103-06; C10M105-32;** C10N020-02; C10N040-24
ICA B22D017-04
ICI C10N020:02; C10N040:24; C10M101:02, C10M101:04, C10M103:06, C10M105:32, C10M111-
AB JP 02215894 A UPAB: 19930928
A **lubricant compsn.** comprises a base mineral oil and at least one of oils, fats or fatty acid ester and white solid lubricant, and has a kinematic viscosity of 250-500 mm3/sec.

The mineral oil is e.g. turbine oil as specified by JIS K 2213 or machine oil as specified by JIS K 2238. The oil or fat is e.g. soybean oil, lard, beef tallow, etc. in an amt. 5-30 wt.%. The fatty acid ester is e.g. trimethylolpropane oleate, neopentyl glycol oleate or pentaerythritol

oleate, etc. in an amt. 5-30 wt.%. The white solid lubricant is e.g. talc, mica, BN, polyfluoroethylene, polyethylene, etc. in an amt. 2-30 wt.%. The compsn. opt. contains a thickening agent (e.g. montmorillonite, polyisobutene, polyalkyl **methacrylate**, polystyrene, etc.), corrosion inhibitor, antioxidant, etc.

USE/ADVANTAGE - The **lubricant compsn.** has high lubricity for mitigating the **friction** between the plunger tip and the sleeve of a high speed type or high mould clamping force type casting machine. The compsn. contains no graphite which fouls the working environment.

0/1

FS CPI
FA AB
MC CPI: H07-B; M22-G

L56 ANSWER 8 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1988-206764 [30] WPIDS
DNC C1988-092246
TI Heavy-duty **lubricant compsns.** - contain zinc salt of hydro-carbyl-substd. unsatd. carboxylic acid as dispersant-detergent.
DC A97 E12 H07
IN GUTIERREZ, A; LUNDBERG, R D; SCHETELICH, A A
PA (ESSO) EXXON CHEM PATENTS INC
CYC 4
PI EP 275658 A 19880727 (198830)* EN 10p
R: DE GB
JP 63218798 A 19880912 (198842)
EP 275658 B 19910612 (199124)
R: DE GB
DE 3770802 G 19910718 (199130)
CA 1295988 C 19920218 (199214)
JP 2756671 B2 19980525 (199826) 7p C10M129-93 <--
ADT EP 275658 A EP 1987-310947 19871211; JP 63218798 A JP 1987-307801 19871207; JP 2756671 B2 JP 1987-307801 19871207
FDT JP 2756671 B2 Previous Publ. JP 63218798
PRAI US 1986-941094 19861212
REP A3...8845; CA 1170247; No-SR.Pub; US 3271310; US 3428561
IC **C10M129-93**; **C10M161-00**; C10N010-04; C10N030-04
ICM **C10M129-93**
ICS **C10M161-00**; C10N010-04; C10N030-04
AB EP 275658 A UPAB: 19930923
Heavy duty lubricants comprise (a) a major amt.of lubricating oil, (b) 0.1-20 wt.% of a dispersant/detergent additive comprising the Zn salt of a hydrocarbyl-substd. mono-unsatd. mono- or dicarboxylic acid prepd. by reacting a polymer of a 4-10C monoolefin (no.-av. molecular wt. above 900) with a 4-10C mono-unsatd. acid and (c) a viscosity modifier.

The compsns. pref. comprise 1-16 wt.% viscosity modifier, 0.1-14 wt.% Zn-PIBSA (PIBSA = polyisobutenylsuccinate with a polyisobutenyl molecular wt. of 950-3000), 0.01-1.5 wt.% corrosion inhibitor, 0.01-1.5 wt.% antioxidant, 0.01-1.5 wt.% pour point depressant, 0.001-0.1 wt.% antifoam, 0.001-1.5 wt.5 antiwear agent, 0.01-15 wt.% **friction** modifier, balance mineral oil.

ADVANTAGE - The compsns. give good results in the Panel Coker and Caterpillar IG2 tests.

FS CPI
FA AB
MC CPI: A10-E03; A10-E21; A10-E23; A12-W02A; E05-L03C; H07-B; H07-G03; H07-G06

L56 ANSWER 9 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1987-314953 [45] WPIDS
DNN N1987-235716 DNC C1987-133905
TI Poly alkylene glycol gel lubricants - esp. for cable lubrication.
DC A25 A97 H07 X12

IN WEITZ, G C
PA (AMPO-N) AMER POLYWATER CORP
CYC 13
PI EP 244733 A 19871111 (198745)* EN 16p
R: AT CH DE ES FR GB IT LI NL SE
AU 8772291 A 19871112 (198801)
JP 63039990 A 19880220 (198813)
US 4781847 A 19881101 (198846) 8p
ADT EP 244733 A EP 1987-106126 19870428; JP 63039990 A JP 1987-110934 19870508; US 4781847 A US 1986-859320 19860508
PRAI US 1986-859320 19860508
REP No-SR.Pub
IC **C10M173-02**; C10N040-06
AB EP 244733 A UPAB: 19930922
Lubricant compsns. comprise H2O and 0.5-25 wt.% of a polyalkylene glycol (I) with a molecular wt. of 200-15,000. The compsns. contain 0.5-10 wt.% (I), 0.5-2 wt.% of a viscosity modifier (II) and opt. 10-80 wt.% of a 1-6C alcohol (III) to depress the freezing point. (I) comprises 50-100 wt.% of a polypropylene glycol (PPG) with a molecular wt. of 400-4000 and 0-50 wt.% of a polyethylene glycol (PEG) with a molecular wt. of 200-15,000.

(II) comprises 10-80 wt.% of a **polyacrylic** acid with a molecular wt. of at least 300 and (a) 20-90 wt.% of a polyethylene oxide with a molecular wt. of at least 300,000 and 20-90 wt.% of a cellulosic cpd., (b) 20-90 wt.% of an **acrylamide/acrylic** acid copolymer with a molecular wt. of at least 100,000, or (c) 20-90 wt.% of a cellulosic cpd. (III) is MeOH, EtOH, i-PrOH, ethyleneglycol, propylene glycol, amyl alcohol or n-hexanol.

USE/ADVANTAGE - The compsns. are useful for lubricating electrical and telephone cables to facilitate installation in conduits. The compsns. provide good lubrication under high and low loads, are easy to handle, apply and clean up, leave little residue on evapn., are slow to evaporate, provide effective dry lubrication, are freeze-thaw stable, can be pumped, have a long shelf life, are nonflammable and can be used in aq. environments.

0/0
FS CPI EPI
FA AB
MC CPI: A05-H01B; A12-W02; H07-A; H07-G06
EPI: X12-G01A

L56 ANSWER 10 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1987-129510 [19] WPIDS
DNN N1987-096858 DNC C1987-053873
TI **Lubricant compsn**. contg. hydrophilic polymer and surfactant - for lubricating intubation device for medical use.
DC A25 A96 B07 D22 H07 P34
PA (CHEO) CHESEBROUGH PONDS INC; (SHES) SHERWOOD MEDICAL CO
CYC 7
PI AU 8662497 A 19870326 (198719)* 22p
EP 228762 A 19870715 (198728) EN 7p
R: DE FR GB IT
US 4705709 A 19871110 (198747) 6p
EP 228762 B 19891123 (198947) EN
R: DE FR GB IT
DE 3667024 G 19891228 (199002)
CA 1288089 C 19910827 (199139)
ADT AU 8662497 A AU 1986-62497 19860908; EP 228762 A EP 1986-307341 19860924; US 4705709 A US 1985-781218 19850925
PRAI US 1985-781218 19850925
REP DE 2912852; EP 132387; US 3822238; US 3975350; US 4278633; US 4388076; US 4536179
IC A01N001-02; A61L029-00; A61L031-00; A61M005-32; A61M025-00; **C10M105-72**; **C10M107-40**; **C10M111-04**;

C10M149-12; C10N040-00; C10N050-02
AB AU 8662497 A UPAB: 19930922
A **lubricant compsn.** (I) comprises A. a hydrophilic polymer, and B. a non-ionic or amphoteric surfactant in amount effective to reduce the coefficient of **friction** of (I) upon contact with water to less than 0.6 in less than 5 min. An intubation device (D) has a coating of (I) on at least a part thereof. A method of coating a device (D) comprises forming a solution of (A) and (B), applying to (D) to form a first coating, and then drying and curing.

Pref. (A) is a polyurethane derived from a polyethylene glycol, polypropylene glycol or polyalkylene amine, reacted with an isocyanate, e.g. toluene diisocyanate or methylene bis(cyclohexylisocyanate); alternatively (A) may be an alkyl or alkoxyalkyl ester or amide of **acrylic** or **methacrylic** acid. (A) is esp. a hydroxy-terminated hydrophilic polyurethane (A2) of average mol. wt. about 7500, which is the product of polyethylene glycol (mol. wt. 1890-1900) (C) and methylene bis(4-cyclohexylisocyanate) (E) reacted in presence of catalyst, e.g. stannous octoate. (B) is a linear alkyl sulphonate, alkylphenyl hydroxypolyoxyethylene, polyethylene glycol ether, or esp. octylphenoxy polyethoxyethanol (Triton X-100, RTM).

USE/ADVANTAGE - (D) is a tube or other device lubricated for insertion into a human or animal body; it may be a nasogastric or nasojejunal tube or stylet as described in US 4,388,076. A suitable nasogastric device is described. The coating is dry and non-slippery, but readily hydrates in contact with water and becomes lubricant, but retains sufficient mechanical strength to avoid being rubbed off.

0/4
FS CPI GMPI
FA AB
MC CPI: A12-V03B; A12-W02A; B04-C03C; B04-C03D; B10-A09B; B12-M09; D11-A01B2; D11-A03A; H07-G07; N05-A

L56 ANSWER 11 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1987-062727 [09] WPIDS
DNC C1987-026461
TI **Lubricant compsn.** for chemical use and machine construction - contg. mineral oil mixt. and additives e.g. sulphurised plant fat derivs. poly alkyl **methacrylate** silicone oil, etc..
DC A97 E19 H07 M14
IN GIMPIEREA, M; IORDACHE, G; LUCA, M C; MARINESCU, C
PA (PETR-N) COMB PETROCH TELEAJ; (INGI-N) INST ING TEHN PRELUC RAF
CYC 1
PI RO 90286 A 19860930 (198709)*
ADT RO 90286 A RO 1985-117092 19850103
PRAI RO 1985-117092 19850103
IC **C10M001-00**
AB RO 90286 A UPAB: 19930922
The compsn. contains a mixt. of mineral oils and additives consisting of sulphurised vegetable fats, Zn dialkyl dithiophosphates, chlorinated paraffins, Ca- or Ba-sulphonates or phenolates, polyalkyl **methacrylate**, succinimide, alkyl naphthalene and silicone oil.

USE - The compsn. is useful in the chemical industry and machine construction. **Friction** cups are protected over a long time against wear, rust, corrosion and high pressures.
FS CPI
FA AB
MC CPI: A04-F06E3; A06-A00E; A12-W02A; E05-G09A; E05-L03D; E07-D03; E10-A09B8; E10-E02E; E10-G02H; E10-H02F; E10-J02B4; H07-B; H07-G02; H07-G04; H07-G07; M14-F01

L56 ANSWER 12 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1985-273777 [44] WPIDS
DNC C1985-118921
TI Thermoplastic resin compsn. - comprises polyphenylene ether resin and

polyamide elastomer.
DC A13 A23 A25
PA (DAIL) DAICEL CHEM IND LTD
CYC 1
PI JP 60186560 A 19850924 (198544)* 5p
JP 03074273 B 19911126 (199151)
ADT JP 60186560 A JP 1984-42361 19840306; JP 03074273 B JP 1984-42361 19840306
PRAI JP 1984-42361 19840306
IC C08L025-04; C08L071-04; C08L077-00
AB JP 60186560 A UPAB: 19930925
Thermoplastic resin compsn. comprises 100 pts. wt. (a) polyphenylene ether resin and 0.01-50 pts. wt. (b) polyamide elastomer.
Resin (a) is compsn. of (a1) polyphenylene ether and (a2) other resin component. Cpd. (a1) is, e.g., poly(2,6-dimethyl-1,4-phenylene)ether, poly(2-methyl-6-ethyl -1,4-phenylene)-ether, poly(2-methyl-6-propyl-1,4-phenylene) ether, 2,6-dimethyl-phenol-2, 3-6-trimethylphenol copolymer. Cpd. (a2) is pref. vinyl aromatic resins, e.g., polystyrene, poly(styrene-**acrylonitrile**) copolymer or rubber-reinforced(styrene-**acrylonitrile**) copolymer.
Cpd. (b) comprises 95-10, pref. 90-20 wt.% of hard segment consisting of e.g., above 6C aminocarboxylic acid, e.g., omega-aminocaproic acid or lactam, e.g., caprolactam or nylon salts, e.g., nylon 6.6, nylon 6.12, or nylon 12.10 and soft segment, e.g., poly(alkyleneoxide)-glycol, polycaprolactone polyol or polycarbonate polyol. The content of (b) is pref. 0.1-30, esp. pref. 0.5-15 pts. wt..
When the content of (b) is above 50 pts. wt., the compsn. has lower mechanical strength. The **compsn.** opt. contains **lubricants**, dispersing agents, stabilisers, pigments, flame retardants, etc..
USE/ADVANTAGE - The addition of (b) to (a) improves **frictional** abrading characteristics. The resin compsn. is useful for mouldings having sliding portions, e.g., **piston**, gear, switch, etc..
/0
FS CPI
FA AB
MC CPI: A05-F01B; A05-F01E2; A05-H07; A07-A03; A08-M09; A12-H10

L56 ANSWER 13 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1985-171044 [28] WPIDS
DNC C1985-074797
TI **Lubricant compsn.** contg. **friction** reducer - comprising hydroxy-alkoxy acid amide of alkyl amine.
DC E16 H07
IN SCHLICHT, R C
PA (TEXC) TEXACO INC
CYC 1
PI US 4525288 A 19850625 (198528)* 4p
ADT US 4525288 A US 1983-523242 19830815
PRAI US 1983-523242 19830815
IC **C10M001-32**
AB US 4525288 A UPAB: 19930925
A **lubricant compsn.** is claimed comprising a lubricating oil contg. the following additives in conventional amounts; an alkenyl succinimide, an overbased Ca sulphonate, a poly-ethoxylated alkylphenol, a zinc dialkyl dithiophosphate, a diarylamine, a **polymethacrylate**, an olefin copolymer and a silicone antifoament.
The novelty is the inclusion of a **friction**-reducing amount of a hydroxyalkoxyamide of formula R-NH-CO-(CH2)n-O-(CH2)m-OH (Ia): R=12-18C alkyl, pref. oleyl; m=1-10, pref. 2; n=1-10; pref. 1.
USE - Cpds. (I) are useful as **friction**-reducing additives in fuels and lubricatns.
0/0
FS CPI

FA AB
MC CPI: E10-D03D; H07-A

L56 ANSWER 14 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1984-019266 [04] WPIDS
DNC C1984-008057
TI Graphite fluoride lubricant partly defluorinated by radiation - has reduced **friction** coefft. and is more compatible with resins and oils..
DC A97 E36 H07
IN KITA, Y; MOROI, S; NAKANO, H; SAKANOUE, A
PA (CENG) CENTRAL GLASS CO LTD
CYC 4
PI DE 3325675 A 19840119 (198404)* 22p
FR 2530263 A 19840120 (198408)
JP 59016273 A 19840127 (198410)
JP 59018107 A 19840130 (198410)
JP 59018108 A 19840130 (198410)
US 4500678 A 19850219 (198510)
DE 3325675 C 19860528 (198622)
JP 01043682 B 19890922 (198942)
JP 02061519 B 19901220 (199104)
JP 03043749 B 19910703 (199130)
ADT DE 3325675 A DE 1983-3325675 19830715; FR 2530263 A FR 1983-11816 19830718; JP 59016273 A JP 1983-88946 19830715; JP 59018107 A JP 1982-125370 19820719; JP 59018108 A JP 1982-88947 19820716; US 4500678 A US 1983-514792 19830718; JP 01043682 B JP 1983-88947 19820716; JP 02061519 B JP 1982-125370 19820719
PRAI JP 1982-125370 19820719; JP 1983-88946 19820716; JP 1983-88947 19820716
IC C01B031-04; **C10M001-10; C10M003-02; C10M005-02 ; C10M007-02; C10M009-00; C10M103-02; C10M125-18**; C10N030-06; C10N050-08; C10N070-00; H01M004-58
AB DE 3325675 A UPAB: 19930925
A lubricant (I) is obtd. pref. from (CF)n or (CF2)n, by dispersing in a dispersion medium, irradiating with electromagnetic radiation, and collecting the partly defluorinated prod.

The particle size of the initial graphite fluoride is pref. 0.01-100 micron. The dispersion medium is e.g. ethanol, acetone, aq. solns. of KOH, NaOH or surfactant or NH3 gas. Pref. 0.01-50 % (esp. 0.1-10%) of the F in the initial material is removed. The wavelength of the radiation is pref. 1-0.001 micron. Compsn. can be made from (I) and e.g. phenolic resins, polyimides, polyamides, polyethylene, polymethyl **methacrylate** and fluoropolymers. Liq. **lubricant compsns.** can be made from (I) and paraffinic or naphthenic mineral oil, silicone soils and fluorine-contg. oils. Lubricating greases can be made from (I) and a mineral oil- or silicone-grease.

Compared with the starting material, (I) shows reduced coefft. of **friction**, (e.g. 0.08 instead of 0.13); and improved capability with resins, lubricating oils, greases, etc., giving compsns. of improved lubricating properties. Compsns. based on resins show improved mouldability.

0/0
FS CPI
FA AB
MC CPI: A08-M03; E31-N05; H07-D; H07-G

L56 ANSWER 15 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1983-814553 [45] WPIDS
DNC C1983-110207
TI Lubricating oils contg. solid lubricant - and dispersant-viscosity index improver.
DC A97 H07
IN DEJOVINE, J M; DEVRIES, D L

PA (ATLF) ATLANTIC RICHFIELD CO
CYC 1
PI US 4411804 A 19831025 (198345)* 15p
PRAI US 1976-752225 19761220; US 1978-893098 19780403; US 1978-893101 19780403; US 1978-913183 19780606
IC **C10M001-12**
AB US 4411804 A UPAB: 19930925
Lubricant compsns. characterised by their ability to reduce **friction** in IC engines without exhibiting unacceptable deposit-forming tendencies comprises (a) a major amt. of lubricating oil, (b) 0.1-2 wt.% of solid particles of a lubricant selected from graphite, MoS2, ZnO and their mixts. and (c) 3-10 wt.% of at least one dispersant/VI improver. The parent patent relates to similar compsns. in which component (c) is a copolymer of an alpha,beta-unsatd. acid or anhydride and an olefin.

The (c):(b) ratio is pref. at least 2.5:1, esp. at least 3:1. Suitable components (c) include copolymers of N-vinylpyrrolidone and **acrylate** esters, reaction prods. of oxidised ethylene/propylene copolymers and amines, and EPDM/dialkylaminoalkyl **methacrylate** graft copolymers.

0/0
FS CPI
FA AB
MC CPI: A12-W02A; H07-G03; H07-G06; H07-G08

L56 ANSWER 16 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1983-43936K [18] WPIDS
DNC C1983-042848
TI Sulphurised transesterified tri glyceride **compsns.** - useful as **lubricant** and fuel additives.
DC H06 H07
IN DENHERDER, M J; KAMMANN, D P; WAGNER, T L
PA (FECO) FERRO CORP
CYC 1
PI US 4380498 A 19830419 (198318)* 7p
PRAI US 1981-291544 19810810
IC C10L001-18; **C10M001-20**
AB US 4380498 A UPAB: 19930925
Additive omsns. comprise a sulphurised transesterified triglyceride(I) in which the total acid component includes 5-50 mole % of polybasic carboxylic acids (II).

(II) are pref. 3-36C (esp. 21-36C) dibasic acids, esp. dimerised linoleic acid or a dimerised prod. of linoleic and **acrylic** acids, or a mixt. of 3-54C (esp. 21.54C) di- and tribasic acids, esp. dimers and trimers of linoleic acid.

The **compsns.** are esp. useful as **lubricant** additives, giving improved EP and antiwear properties, reducing **friction**, lowering pour point and reducing deposit and varnish levels. They may also be used in motor fuels to reduce engine wear and deposits, and in fuel oils to lower pour point and improve fuel pump lubrication. They have better solubility in non-aromatic and synthetic oils than sulphurised fatty oils.
FS CPI
FA AB
MC CPI: H06-B; H07-G08

L56 ANSWER 17 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1983-26137K [11] WPIDS
DNN N1983-047448 DNC C1983-025599
TI **Lubricant compsn.** for hot rolling of steel - contains graphite powder and phenol resin.
DC A18 A21 A97 H07 M21 P51
PA (YAWA) NIPPON STEEL CORP
CYC 1

PI JP 58019396 A 19830204 (198311)* 3p
PRAI JP 1981-118174 19810728
IC B21C023-32; **C10M007-04**
AB JP 58019396 A UPAB: 19930925
Lubricant comprises graphite powder and phenol resin (1-50 wt.% of the graphite) or an aq. dispersion prepd. by suspending graphite powder, phenol resin (1-50 wt.% of graphite) and dispersing agent (0-20 wt.% of graphite) in H2O.

Specifically the phenol resin is coated onto the heated steel hot-rolling members to form a lubricating coating. The dispersing agent provides stable aq. dispersion of graphite powder and the resin. It is typically acacia gum, alginic acid, starch, dextrin, MC, CMC, PVA, **polyacrylate** salt, surface active agent, colloidal silica or bentonite.

Compsn. forms film which is adhered firmly and resistant to the dry **friction** of hot rolling members.
FS CPI GMPI
FA AB
MC CPI: A05-C01; A12-W02A; H07-D; H07-X; M21-A06

L56 ANSWER 18 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1983-26136K [11] WPIDS
DNN N1983-047447 DNC C1983-025598
TI Lubricant for hot rolling of steel - comprises graphite powder and polyamide resin or their aq. dispersion.
DC A18 A23 A97 H07 M21 P51
PA (YAWA) NIPPON STEEL CORP
CYC 1
PI JP 58019395 A 19830204 (198311)* 3p
PRAI JP 1981-118173 19810728
IC B21C023-32; **C10M007-04**
AB JP 58019395 A UPAB: 19930925
Lubricant comprises graphite powder and polyamide resin (1-50 wt.% of the graphite) or an aq. dispersion prepd. by suspending graphite powder, polyamide (1-50 wt.% of the graphite) and a dispersing agent (0-20 wt.% of the graphite) in H2O. The **lubricant compsn.** forms film stuck firmly and durable by subjecting dry **friction** of hot rolling members.

Pref. polyamide resin is applied onto heated steel hot-rolling members to form a coating. The dispersing agent provides stable aq. dispersion of graphite powder and the resin. It is typically acacia gum, alginic acid, starch, dextrin, MC, CMC, PVA, **polyacrylate** salt, surfactant, colloidal silica or bentonite. The dry compsn. is coated on such steel members by immersing the heated members in the fluidised mixt. The aq. dispersion is coated on such steel members by spraying it and heated to form a coating.
FS CPI GMPI
FA AB
MC CPI: A05-F01E; A12-W02; A12-W02A; H07-D; H07-X; M21-A06

L56 ANSWER 19 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1982-02143J [47] WPIDS
TI Crankcase lubricants contg. additive package - including N-alkyl-glycine deriv. to reduce **friction**.
DC A97 E19 H07
IN CULLEN, W P; LEVINE, S A; SUNG, R L; ZOLESKI, B H
PA (TEXC) TEXACO INC
CYC 1
PI US 4358385 A 19821109 (198247)* 8p
PRAI US 1981-291581 19810810
IC **C10M001-48**
AB US 4358385 A UPAB: 19930915
Crankcase **lubricant compsns.** having a total base no. (TBN) of 5-40 comprise a mineral lubricating oil contg. (a) 0.1-5 wt.% of

an overbased Ca sulphonate; (b) 0.1-1 wt.% of a Zn dithiophosphate of formula ((RO)2P(S)S)2Zn (where R is an opt. OH-substd. 4-12C hydrocarbyl gp.); (c) 0.025-1 wt.% of an ethoxylated alkylphenol of formula Ar(CH2CH2O)nH (where Ar is phenyl monosubstd. by 4-20C alkyl and n= 4-30); (d) 0.05-1 wt.% of an alkylated diphenylamine of formula Ar1-NH-Ar2 (where Ar1 and Ar2 are R1-substd. 4-R2-phenyl gps.; R1 is 1-4C alkyl; R2 is 4-16C alkyl); (e) 0.5-10 wt.% of a succinimide dispersant of formula (I) (where R is 50-200C alkenyl and y= 0-10).

Compsn. further comprises (f) 0.25-2.5 wt.% of a **polymethacrylate** of formula (II) (sic; where R is a 1-20C aliphatic radical and n= 600-35,000); (g) 0.5-10 wt.% of an ethylene/propylene copolymer with a mol. wt. of 20,000-50,000; and (h) 0.1-5 wt.% of an N-alkylglycine deriv. (I) of formula RNHCH2CONHR'R" (Ia) or (Ib) (where R is 10-25C hydrocarbyl; R' is H or 1-5C alkyl, hydroxyalkyl or aminoalkyl; R" is 1-5C alkyl or hydroxyalkyl or (CH2CH2NH)xH; x= 1-3; X is O or NR').

The compsns. are esp. useful for lubricating medium- and high-speed diesel and gasoline engines. Inclusion of (I) improves fuel economy by reducing engine **friction.**

FS CPI
FA AB
MC CPI: A04-F06E; A04-G06; A12-W02A; E05-B01; E05-G; E05-L03D; E07-D03; E07-D09; E07-E01; E10-B01C; E10-B02D; E10-E04M; H07-B; H07-G07

L56 ANSWER 20 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1981-92464D [50] WPIDS
TI Lubricating oil for pneumatic perforators - contg. zinc di alkyl-di thio-phosphate, poly-methyl siloxane and acid ester of alkenyl-succinic acid.
DC A18 A26 A97 H07
IN BADYSHTOVA, K M; IVANKINA, E B
PA (SHCH-I) SHCHEKURIN O O
CYC 1
PI SU 810766 B 19810310 (198150)* 3p
PRAI SU 1979-2757245 19790425
IC **C10M001-18**
AB SU 810766 B UPAB: 19930915
Addn. of Zn dialkyl dithiophosphate (I), polymethyl siloxane (II) and acid ester of alkenyl succinic acid (III) to, and use of alkenyl succinimide (IV) as emulsifier in the **lubricant compsn.** for the pneumatic perforators, improves its anticorrosion, antiwear etc. characteristics.

The mixt. contains (in wt. %): (I) 1-3, (II) 0.005-0.01, (III) 0.1-0.15, (IV) 0.1-0.2, polyisobutylene (V) 0.5-2 and mineral oil (VI) the rest, and (V) used has mol. wt. of 900-15000. The compsn. may also contain 0.3-0.6 wt. % polymethyl **methacrylate** as depressant. Addn. of (I)-(III) and use of (IV) reduce the consumption of the lubricant by 25% and **frictional** wear of the instrument by 1.5 times.

FS CPI
FA AB
MC CPI: A06-A00E; A12-W02A; H07-B; H07-G

L56 ANSWER 21 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1979-73716B [41] WPIDS
TI Fatty alcohol derived tert. butyl ether fibre lubricants - have low **frictional** coefft., low viscosity and high heat-stability.
DC A60 E17 F06
IN BILLENSTEI, S; KLEBER, R
PA (FARH) HOECHST AG
CYC 6
PI DE 2812444 A 19791004 (197941)*
GB 2017749 A 19791010 (197941)
JP 54134199 A 19791018 (197948)
FR 2420595 A 19791123 (198002)

US 4261839 A 19810414 (198118)
GB 2017749 B 19830202 (198305)
IT 1112961 B 19860120 (198721)
PRAI DE 1978-2812444 19780322
IC C07C043-03; **C10M003-14**; D06M013-18
AB DE 2812444 A UPAB: 19930901
Tert. butyl ethers having formula R1-O-CMe2 (2) (where R1 is linear or branched 12-22C alkyl or alkenyl) are used as **lubricants** in fibre finishing **compsns**. Fibre finishes consisting of or contg. (I) are claimed. (I) can be used as aq. emulsions contg. 10-30 wt.% (I). ACtive (I) concn. on fibre may be 0.3-2 (0.4-0.8) wt.%.
(I) are used in finishing natural and synthetic fibres, esp. cotton, polyester, polyamide or **polyacrylonitrile**. The **frictional** coefft. of (I)-contg. compsns. is low. (I) do not turn yellow after heating an are low-viscosity colourless liqs. (I) swell neither the polyurethane of texturising rollers not polyolefin fibres.
FS CPI
FA AB
MC CPI: A08-M03; A12-S05S; E10-H01; F01-H06

L56 ANSWER 22 OF 22 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
AN 1968-89576P [00] WPIDS
TI **Lubricant compsn** for reducing **friction** in **conveyor**.
DC A00
PA (DOWC) DOW CHEM GMBH
CYC 1
PI US 3336225 A (196800)*
PRAI US 1966-520904 19660117
AB US 3336225 A UPAB: 19930831
Lubricant compsn. for reducing **friction** in **conveyor** belts is obtained by incorporating 0.0002 - 0.01 wt.% of a water soluble, cationic **acrylamide** polymer having a mol. wt. of at least ca. 500,000 and at least 50 mole % **acrylamide** moieties in the aq. amine, alkali metal, or ammonium soap solution.
Superior reduction in **friction**.
FS CPI
FA AB
MC CPI: A04-D04; A12-H01; A12-W02